

Consumer Reports

"FACTS YOU NEED
BEFORE YOU BUY"

VOL. 10, NO. 1

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JANUARY 1944



RAYON SLIPS

SHEETS: MUSLIN
& PERCALE

GREEN BEANS

SHORTENINGS
& OILS

HOME HEATING

HEADACHE

FOOD FACTS

THE "GI GYP"

THE CONSUMER
MOVEMENT

New Group Rates

... announcing a change in plan

Five or more persons subscribing to CU publications as a group are now eligible for reduced group subscription rates, as the result of action taken by the CU Board of Directors. The new minimum of five takes the place of the previous minimum of ten. The group rates are intended primarily for schools, clubs, unions and consumer groups; but they are available to any individual who wants to get four or more other persons to join with him in subscribing to *Consumer Reports*.

The reduced group rates are:

\$3 for the regular \$4 subscription to the Reports (including Buying Guide Issue) and Bread & Butter; and

\$2.50 for the regular \$3.50 subscription to the Reports (including Buying Guide Issue) without Bread & Butter.

Because large numbers of group leaders and group members have gone to war, many groups have found it difficult to renew the old minimum of ten. The new minimum will help these groups to keep going. It will also make it easier for CU members to get others in organizations to which they belong, and in their schools, shops and offices, to join CU. Further, it will help members in various organizations to form a nucleus for the start of consumer activities in those organizations. There is a group subscription blank on the inside of the back cover.

CONSUMERS UNION is a non-profit organization chartered under the Membership Corporation Laws of New York State. Its purpose is to furnish unbiased, usable information to help families meet their buying problems, get their money's worth in their purchases, develop and maintain an understanding of the forces affecting their interests as consumers. Consumers Union has no connection with any commer-

cial interest and accepts no advertising; income is derived from the fees of members, each of whom has the right to vote for candidates to the Board of Directors. More than 70 educators, social workers and scientists sponsor Consumers Union and a national advisory committee of consumer leaders contributes to the formulation of policy (names of the members of the committee will be furnished on request).

CONSUMER REPORTS each month gives comparative ratings of a variety of products based on tests and expert examinations, together with general buying guidance, information on medical and health questions, and news of happenings affecting the consumer's interests. The Reports is the manual of informed and efficient consumers the country over.

THE BUYING GUIDE (published as the December issue of the Reports) each year brings together information from all the preceding issues with new material and special buying advice. Pocket-size, 384 pages, with ratings of several thousand products, the Buying Guide is an invaluable shopping companion. Every member gets a copy of the Guide with his membership.

BREAD & BUTTER reports each week on new and predicted price and quality changes in consumer goods, interprets Washington legislation as it affects consumers, reports government regulations and actions on the consumer front, advises on food buying and preparation.

SUBSCRIPTION FEES are \$4 a year, which includes subscription to the Reports and Buying Guide and Bread & Butter; \$3.50 without Bread & Butter (for foreign and Canadian memberships add 50¢). Reduced subscription rates are available for groups of 10 or more

(write for details). Library rates, for the Reports and Bread & Butter without the Buying Guide issue, are \$3.50; for the Reports alone, \$3.

Membership involves no obligation whatsoever on the part of the member beyond the payment of the subscription fee.

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Postwar Prospects

Before the war, CU had many harsh things to say about General Electric products. But we have only praise for that company's postwar policies and plans affecting prices and wages, as described by GE's president, Charles E. Wilson, some weeks ago.

Mr. Wilson put on the record a promise of low prices on General Electric products and high wages for General Electric employees. This is what he said:

"There have been too many pat statements that consumer products and services will have to cost 25 percent or 30 percent more after the war because labor costs are up. That is shallow and passive thinking. So far as our own organization is concerned, we have no intention of accepting it simply because there are pent-up demands and a prosperous ready market. In the few items such as clocks and irons, which we have begun to make, we are applying pre-war prices and that will be our policy to the best of our ability.

"We are putting aside all ideas of a limited two-cylinder production and placing it in volume and wide distribution. In 1920 some \$15,000,000 in income were shut off with the closing of plants and reductions in working hours. There were 100,000 bankruptcies and a 44 percent drop in industrial payrolls. That must not happen again. It can happen again during the post-war period of readjustment unless there is a strong effort upon the part of every business to hold down its prices, utilize its productive efficiency, cut its extravagant distribution costs and maintain its workers' income."

In effect, Mr. Wilson was holding out to the American people one of the most meaningful promises of a prosperous postwar America that has yet been made.

Low prices and high wages are two of the chief prerequisites for full employment and prosperity after the war. With lower prices, consumers' incomes will buy more goods, and the demand for more goods will make more jobs (and more income to buy more goods to make more jobs). And high wages, entering the cycle at a different point, will have the same effect: higher wages provide more income to buy more products, increasing production and making more jobs.

Nor are consumers, getting more goods for their money; or workers, getting more jobs and higher pay, the only ones to benefit. If President Roosevelt's goal of 60 million gainfully employed after the war can be achieved, the demand for goods and services will give business men, big and little, virtually unlimited opportunities for investment, expansion and profitable business. And few will be those, whether bankers or school teachers, who, directly or indirectly, will not benefit.

Mr. Wilson can promise low prices and high wages only for the products of his own company and for his own workers. But GE is no ordinary business concern. As one of the nation's industrial giants, its policies, particularly with respect to prices, can profoundly affect the price policies of all industry.

GE's statement of policy is the more impressive because the General Electric Company could, if it wished, be relatively independent of domestic markets after the war. World-wide rehabilitation and industrialization will provide all the foreign demand it can take care of for years to come.

Our hats are off to Mr. Wilson and his company for an act of outstanding industrial statesmanship.

Consumer Reports

"FACTS YOU NEED BEFORE YOU BUY"

"Because it was established for the very purpose of aiding families to buy wisely, to avoid waste and to maintain health and living standards, and because it is the largest technical organization providing such guidance, Consumers Union recognizes a special responsibility to the nation. In full awareness of that responsibility, we pledge ourselves to do everything in our power to help Americans as consumers make the greatest possible contribution to the national need."—FROM A RESOLUTION ADOPTED ON DECEMBER 10, 1941, BY THE DIRECTORS.

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REPORTS ON PRODUCTS

Ratings of products represent the best judgment of staff technicians or of consultants in university, governmental and private laboratories. Samples for test are in practically all cases obtained on the open market by CU's shoppers. Ratings are based on laboratory tests, carefully controlled use tests, the opinion of qualified authorities, the experience of a large number of persons, or on a combination of these factors. Even with rigorous tests, interpretation of findings is a matter on which expert opinion often differs. It is Consumers Union's pledge that opinions entering into its evaluations shall be as free from bias as it is possible to make them.

Rayon Slips

You can get good quality in satin or crepe, or in a knitted fabric, CU's tests of 67 brands show, but careful selection is important

Whether you prefer satin, crêpe or knit fabric, you can get a high-quality slip for less than \$2, CU's tests of 26 brands of rayon satin, 28 brands of rayon crêpe and 13 brands of knitted slips show. Paying more gives you nothing additional in the way of durability, though if you want fancy lace or handwork on your slip, that adds to the cost.

Slips included in CU's tests were the simplest and least-decorated styles of the leading brands, found in the stores by CU's shoppers. Most were of the tailored type, with diamond-shaped, double-thickness bodices, or with single-thickness bodices shaped to fit by means of tucks. In some brands, however, it was possible to purchase only embroidered, fagoted or lace-trimmed models.

Ratings of the woven (satin and crêpe) slips were based on thread count; tensile strength of the fabric, seams and strap attachment; shrinkage and resistance to abrasion of the fabric. Weights of the fabrics, adjustability of the shoulder straps and construction details were also noted. The knit slips were tested for resistance to abrasion, bursting strength of fabric and tensile strength of the strap attachments; they were also examined for construction.

Most of the slips purchased were in the \$1.95 to \$2.98 price range, though prices of woven slips ranged from \$1.29 to \$5.98, and the knit slips tested cost from 82¢ to \$2.25.

Tests of slips in the past have indicated that satin was likely to be more durable than crêpe. No such

general difference was found in the current series of tests, however. A good-quality rayon crêpe is likely to be about as durable as a good rayon satin.

Satin differs from crêpe in basic weave. In satin, each of the fine warp yarns is "floated" over several filling yarns, to give a lustrous finish on one side. Crêpe is a plain weave, the same on both sides.

FIT IS IMPORTANT

Proper fit affects not only the initial acceptability of a slip, but its wearing qualities as well. No slip is worth buying unless it fits the figure of the person who will wear it. If it is at all possible, you should try on a slip before you buy it. The danger points are at the hips, the bust and the underarm, and the hemline.

Be sure that any slip you buy allows ample fullness at the hips in both standing and sitting positions. If the garment is skimpy at the hip-line the seams will pull out, and an otherwise good slip will be consigned to the rag bag long before its time.

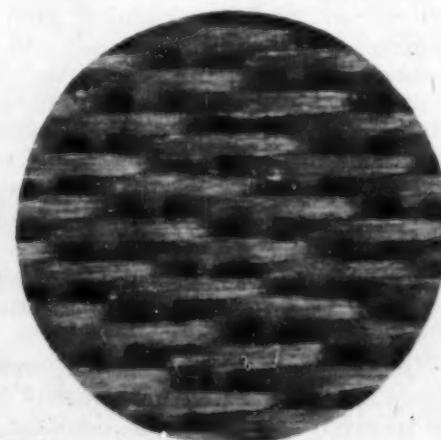
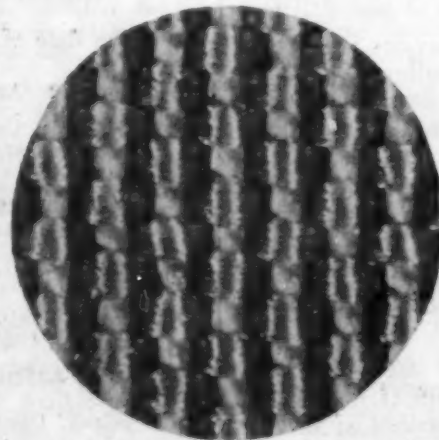
For comfort and a smooth line under dresses, look for a slip which neither cuts nor sags at the underarm and which has a bodice suitably shaped at the bustline. Don't expect adjustable straps to counteract the effects of improper fit in the bodice. Too much strap adjustment will displace the shaping at the waistline and spoil the fit of the whole slip.

For the same reason, it's important to buy a slip which can be brought to the correct length without more than an inch of strap adjustment. If the brand you have chosen for its other virtues is cut in only one length, and that one length is much too short for you, don't buy the slip. If it is too long, however, a satisfactory adjustment can be made by turning up the hem. The main purpose of adjustable straps is to accommodate various bust-to-shoulder measurements.

CONSTRUCTION

The way a slip will fit and wear is determined not only by its actual measurements at various points, but also by the manner in which it is constructed. Slips are cut in such a variety of ways that a style suitable for any type of figure should be easy to find. One-piece, two-piece, four-piece, two-gore and four-gore slips were available at the time of CU's purchases.

Two- and four-piece slips, usually cut on the bias, generally fit better



Differences in weave between crêpe (left) and satin (right), as seen through the microscope (30X). "Floating" of each crosswise warp thread over four of the vertical filling threads gives satin its characteristic finish.

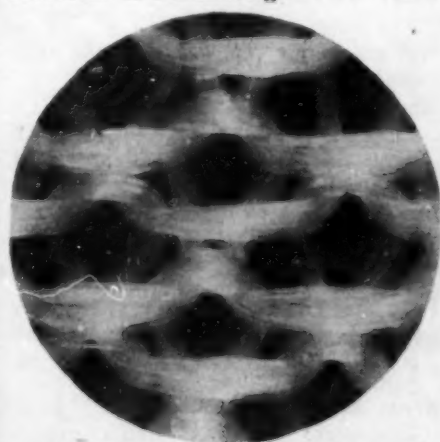
than straight-cut ones and have less tendency to twist and ride up. They wear better, too. Seams made in bias-cut material are stronger than seams joining two straight-cut edges, and bias cut decreases fabric slippage where the seams are joined. You can identify bias construction by examining the seams; the weaves of the two fabric-edges will be at an angle where they are joined in the seam.

There are also combination straight-and bias-cut slips, made in several different ways. One type has bias-cut front and back panels, with a straight-cut panel on either side; another is made with a straight-cut front and a bias-cut back.

Seams sewn with a firm, tight lock-stitch are stronger than the plain, machine backstitch used on many slips. French seams and the increasingly popular fagoted seams are also quite strong. Any of these is likely to be more durable than hand-sewn seams.

Straps should be firmly anchored to the material. If the slip has a diamond-shaped double-top bodice, straps should be inserted between the two layers of material. On slips with lace tops, the straps must be fastened to the material, not to the lace. Examine this type carefully; at least one-fourth inch of the strap material should be inserted in the seam. In some of the slips tested, so little of the strap material was inserted that straps pulled out with very little strain.

Although only one of the slips tested—Sears' satin slip, catalog number 3815—shrank excessively, it's good buying technique to look for a guarantee against shrinkage. A colored slip should also be guaranteed colorfast to laundering.



Magnified 30 times, at left is the "warp knit" of MUNSINGWEAR, one of three slips tested which were not runproof. The "two-bar tricot" (right), used in VANITY FAIR RADIA, will not run.

With a few qualifications and warnings, CU recommends nylon slips because they're very easy to launder, they dry quickly and require no ironing, and because—to judge from the comparative longevity of nylon and rayon hose—they can be expected to wear better than rayon slips.

Five nylon slips—both tailored and lace-trimmed models—all made from U. S. Government rejected material and so labeled, were examined by CU. Since the supply of nylon slips is so limited, and since they are almost never sold by brand name, comparative tests were not made.

Before buying any nylon slip, examine its design carefully. Some fit so poorly around the bust that shoulder straps could not be kept in place.

The sewing thread was, in some cases, too heavy for use with nylon, with the result that stitch holes showed at the seams. Material in

Nylon Slips

the five slips examined showed considerable slippage, giving the garment a somewhat blistery appearance and weakening it at the seams.

The advantages of nylon slips are great enough, however, to compensate for resewing seams and fastening shoulder straps. Since the lace used on the lace-trimmed styles is likely to wear out before the nylon does, CU recommends the selection of a tailored model.

Launder nylon exactly as you do rayon slips. They may either be hung over a bar or line to dry, or spread flat; but clothespins should never be used, as they cause fabric slippage. And remember that nylon requires no ironing. In fact, use of an iron that is too warm may injure the fabric.

When nylon becomes generally available to slip manufacturers, CU will make a further report with brand ratings.

All rayon slips, with or without guarantees, require careful laundering, for rayon fabric becomes weak when wet. Never allow slips to become so soiled that only hard rubbing will get them clean. Use mild soap-suds and warm—never hot—water, pressing the suds gently through the material. Rinse the slip thoroughly; then roll it in a bath towel, gently pressing out as much moisture as possible. Hang the slip in a cool spot away from heat and strong sunlight.

All woven rayon slips should be ironed when damp. Use a warm,

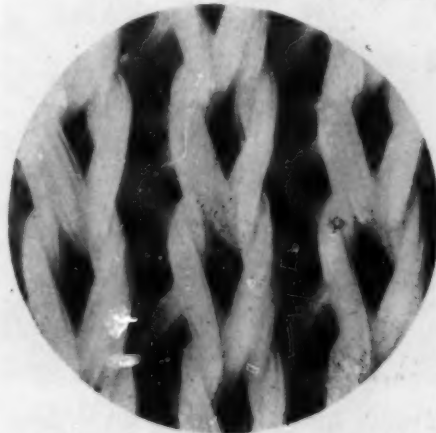
never a hot, iron, and press carefully on the reverse side, ironing with the weave of the material.

RAYON KNIT SLIPS

Scarcity of some brands of satin and crêpe slips, and a marked improvement in cut and styling have contributed to the growing popularity of knit slips. The old tubular style is definitely out. Half the knit slips tested were of the desirable four-gore construction; and all were well made, with tucks at the waistline and bust to insure proper fit. All seams were well sewn and strong—strong enough, in some cases, to outwear the fabrics.

Knit slips are cheaper than woven slips and, so far as fabric strength is concerned, they should wear just as well. However, they have certain disadvantages: knit fabric tends to stretch out of shape in wear; it is more likely to shrink than a woven fabric—particularly in length—and, although its elasticity makes some stretching possible, too much strain on the material will weaken the slip; with some knits, once a thread is broken it will run.

The extent to which a broken thread will run depends upon which of the four types of knit is used. The



plain knit, woven the same way as women's hose, will run both up and down; a simple *warp knit* and the *one-in one-out rib knits* (in which both sides of the material look alike) will run in one direction only; the *two-bar tricot* or *multiple knit*, in which the ribs on the back are at right angles to the ribs on the face of the fabric, will not run at all when a thread is broken. All but three of the knit slips tested were "runproof."

Launder knit slips just as you do woven ones. But do not hang them up to dry, as they tend to stretch out of shape. Spread a knit slip flat on a towel, pulling it into shape while it is damp, and allow it to become thoroughly dry before you press it. It's quite unnecessary to iron a knit slip, but if you do, use only a cool iron.

Crepes

BEST BUYS

The following were judged to give the best values for the money in the order given:

Gracemold Cat. No.—6322 (Montgomery Ward). \$1.48 plus postage. Two-piece, bias cut; adjustable straps. Medium weight. Available by mail order.

Bryn Fair (Barbizon Corp.). \$1.95. Four-gore, bias cut; non-adjustable straps. Medium weight. Available nationally.

Seamprufe (Seamprufe, Inc.). \$1.98. Two-gore, bias cut; adjustable straps. Medium weight. Available nationally.

Barbara Lee (Associated Merchandising Corp.). \$2.25. Two-piece, straight cut; adjustable straps, lastex inserts at sides. Medium weight. Available at AMC Stores.¹

Prim Fit (Barbizon Corp.). \$1.98. Two-piece, straight cut; non-adjustable straps. Medium weight. Available nationally.

Syl-O-Slip (M. C. Schrank Co., NYC). \$1.69. One-piece wraparound, straight cut; built-up shoulders. Medium weight. Available nationally.

ACCEPTABLE

(In estimated order of quality)

Gracemold Cat. No.—6322 (see "Best Buys").

Newform (Manhattan Undergarment Co., NYC). \$2.98. Four-gore, bias cut; adjustable straps, fagotted seams and bodice trim. Medium weight. Available nationally.

Bryn Fair (see "Best Buys").

Fray-Pruf (David Korn & Co.). \$2.98. Two-piece, bias cut; adjustable straps. Fagotted seams. Medium weight. Available nationally.

Mias Deb (Style-Craft Lingerie, Inc.). \$2.75. Two-piece, bias cut; adjustable straps. Eyelet-embroidered bodice trim. Heavy weight. Available nationally.

Barbara Lee (see "Best Buys").

Seamprufe (see "Best Buys").

Radelle (Radelle Lingerie Corp.). \$3.95. Two-piece, bias cut; ¼-inch, non-adjustable eyelet-embroidered straps. Eyelet-embroidered bodice trim. Heavy weight. Available nationally.

Rhythm (Patricia Petticoat Co.). \$2.95. Two-piece, bias cut; ½-inch, adjustable ribbon straps. Medium weight. Available nationally.

Prim Fit (see "Best Buys").

Yolande (Lande & Miskend Co.). \$4.98. Two-piece, bias cut; non-adjustable straps. Hand sewn. Zipper at side. Medium weight. Available nationally.

Shar-Loo (Tailored Silk Undergarment Co., NYC). \$3. Two-gore, front straight, back bias-cut; adjustable straps. Heavy weight. Elastic inserts at sides. Available nationally.

Syl-O-Slip (see "Best Buys").

May Louise (May Co.). \$2.25. Four-gore, bias cut; adjustable straps. Medium weight. Available at The May Dep't Store, Los Angeles.

Miss Swank (Miss Swank, Inc.). \$2.99. Four-piece, front and back bias, side panels straight-cut; adjustable straps. Heavy weight. Two slips tested: one tailored, the other, eyelet-embroidered trim at the bottom and bodice top; both styles same quality. Available nationally.

Marbury (Barbizon Corp.). \$2.25. Two-piece, bias cut; ¼-inch, non-adjustable fagotted straps. Medium weight. Fagotted trim bodice top. Available nationally.

Bryn Chic (Barbizon Corp.). \$2.50. Four-piece, bias cut; non-adjustable straps. Medium weight. Available nationally.



Tell tale stitch holes show where label was removed from the slip at top. Sold as a **KAYSER**, it was found to be identical with the slip labelled **RADELLE**.

Mary Barron Biastrait (Davidson Bros.). \$1.98. One-piece, bias cut; adjustable straps. Heavy weight. Available nationally.

Fruit of the Loom (Fruit of the Loom, Inc.). \$1.98. Two-piece, bias cut; adjustable straps. Medium weight. Available nationally.

Dwalyne (Dowaliby, Inc.). \$4.00. Two-piece, bias cut; non-adjustable straps. Heavy weight. Hand-sewn details. Available nationally.

Shelby (Barbizon Corp.). \$1.95. Two-gore, bias cut; non-adjustable straps. Medium weight. Available nationally.

Symphony Kayress (Julius Kayser & Co., NYC). \$2.95. Two-gore, front straight, back bias-cut; adjustable straps. Eyelet-embroidered bodice trim. Medium weight. Manufacture of this style has been discontinued, but it may still be found in retail stores.

Marshall Field (Marshall Field & Co., Chicago). \$2.25. Two-piece, bias cut; ½-inch, adjustable ribbon straps. Heavy weight. Lace trim bottom and bodice top. Available at Marshall Field Dep't Store, Chicago.

La Modiste Cat. No.—6292 (Montgomery Ward). \$1.29 plus postage. Two-gore, front bias, back straight-cut; adjustable straps. Medium weight. Available by mail order.

Trillium Trilco (Tailored Silk Undergarment Co., Inc.). \$4. Four-piece, bias cut; adjustable straps. Heavy weight. Available nationally.

Loomcraft Bodi-Maid (I. Schneierson & Sons). \$1.39. Two-piece, bias cut; adjustable straps. Heavy weight. Available nationally.

CMO Cat. No.—N94 (Chicago Mail Order). \$1.29 plus postage. Two-piece, bias cut; adjustable straps. Light weight. Available by mail order.

Fischer (Fischer & Co.). \$5.98. Two-piece, bias cut; adjustable straps. Light weight. Eyelet-embroidered bodice trim. Available nationally.

Satins

BEST BUYS

The following were judged to give the best values for the money in the order given:

Rhythm (Patricia Petticoat Co., NYC). \$3.95. Two-piece, bias cut; ¼-inch, adjustable ribbon straps. Light weight, rayon and silk. Available nationally.

Seamprufe (Seamprufe, Inc., NYC). \$1.98. Two-gore, bias cut; adjustable straps. Medium weight. Available nationally.

Prim Rite (Barbizon Corp.). \$1.98. Two-piece, straight cut; non-adjustable straps. Medium weight. Available nationally.

Bryn Belle (Barbizon Corp.). \$1.95. Four-gore, bias cut; non-adjustable straps. Medium weight. Available nationally.

Barbara Lee (Associated Merchandising Corp.). \$2.25. Two-piece, bias cut; ad-

justable straps. Medium weight. Lace trimmed. Available at AMC Stores.¹ Bryn Vogue (Barbizon Corp.). \$2.50. Four-gore, bias cut; non-adjustable straps. Medium weight. Available nationally.

ACCEPTABLE

(In estimated order of quality)

Rhythm (see "Best Buys").
Fischer (Fischer & Co., NYC). \$5.98. Two-piece, bias cut; adjustable straps. Heavy weight. Lace trimmed. Available nationally.
Yolande (Lande & Miskend, Inc., NYC). \$5.98. Two-piece, bias cut; non-adjustable straps. Heavy weight. Hand sewn, lace trimmed. Available nationally.
Rabelle Sonnette (Rabelle Lingerie Corp., NYC). \$3.98. Two-piece, bias cut; 3/4-inch, non-adjustable fagoted straps. Medium weight. (Not the same as Rabelle four-gore slip listed below). Available nationally.
Bryn Vogue (see "Best Buys").
Barbara Lee (see "Best Buys").
Formula Cat. No. —6120 (Montgomery Ward). \$2.98 plus postage. Four-piece, bias cut; adjustable straps. Medium weight. Available by mail order.
Seamprufe (see "Best Buys").
Miss Swank (Miss Swank, Inc., NYC). \$2.99. Four-piece; back and front bias, side panels straight-cut; adjustable straps. Medium weight. Available nationally.
Prim Rite (see "Best Buys").
Bryn Belle (see "Best Buys").
Dwalyne (Dowaliby, Inc., NYC). \$5.75. Two-piece, bias cut; non-adjustable straps. Medium weight. Hand-sewn details. Available nationally.
Fray-Pruf (David Korn & Co., NYC). \$3.98. Two-piece, bias cut; adjustable straps. Medium weight. Fagoted seams, lace trimmed. Available nationally.
Holebroke (Barbizon Corp.). \$2.50. Two-piece, bias cut; non-adjustable straps. Medium weight. Available nationally.
Joyce (Barbizon Corp.). \$2.25. Two-piece, bias cut; 1/2-inch, non-adjustable fagoted straps. Medium weight. Available nationally.
Rabelle (Rabelle Lingerie Corp.). \$3.95. Four-gore, bias cut; 3/4-inch, non-adjustable fagoted straps. Medium weight. An apparently identical slip was purchased, unlabeled, at a Kayser Store. Available nationally.
Mary Barron Biastrait (Davidson Bros., NYC). \$1.98. One-piece, bias cut; adjustable straps. Medium weight. Available nationally.
Sears Cat. No.—3815 (Sears, Roebuck). \$2.69 plus postage. Four-gore, bias cut; adjustable straps. Heavy weight. Available by mail order.
May Louise (May Co., Los Angeles). \$2.25. Four-gore, bias cut; adjustable

straps. Light weight. Available at The May Dep't Store, Los Angeles.
CMO Cat. No.—N27 (Chicago Mail Order). \$1.98 plus postage. Two-piece, bias cut; adjustable straps. Medium weight. Available by mail order.

NOT ACCEPTABLE

The following had very low resistance to abrasion:

Miss Deb (Style-Craft Lingerie, Inc., NYC). \$2.98. Two-piece, bias cut; adjustable straps. Light weight. Lace trimmed.
Loomcraft Konform (I. Schneierson & Sons). \$1.69. Four-gore, bias cut; adjustable straps. Medium weight.
Miss Adorable (Vogue Lingerie Co., NYC). \$1.98. Two-piece, bias cut; adjustable straps. Medium weight. Lace trimmed.
Strainless (Ralco Undergarment Co., NYC). \$1.79. Two-piece, bias cut; adjustable straps. Light weight. Lace trimmed.
Fruit of the Loom (Fruit of the Loom, Inc., Providence, R.I.). \$1.39. Two-piece, bias cut; non-adjustable straps. Medium weight.
Lady Love (Bought at Hale Bros., San Francisco). \$2.25. Two-piece, bias cut; non-adjustable straps. Light weight.

Knit Rayon

BEST BUY

Loomcraft Stripe-Tex (I. Schneierson & Sons). \$1.29. One-piece; adjustable straps. (Manufacturer reports that this slip is also being sold under the name of Loomcraft Tru-Mold). National.

ACCEPTABLE

(In estimated order of quality)

Loomcraft Stripe-Tex (see "Best Buy").
Van Raalte Petalakin (Van Raalte Co., Inc., NYC). \$2.15. Four-gore; adjustable straps. Available nationally.
Vanity Fair Radia (Vanity Fair Mills, Inc., NYC). \$2.25. Four-gore; adjustable straps. Available nationally.
Van Raalte Stryps (Van Raalte Co., Inc.). \$1.85. Two-piece; adjustable straps. Ran in one direction. National.
Faerie Tric-O-Ray (Fairy Silk Mills, NYC). \$2.25. Two-gore; adjustable straps. Available nationally.
American Maid (American Maid Co., Inc., NYC). \$2.25. Four-gore; adjustable straps. Available nationally.

NOT ACCEPTABLE

The following were considerably lower in quality than those above:

Luxite (Holeproof Hosiery Co., NYC). \$2. Two-piece; adjustable straps.
Sears Cat. No.—3856 (Sears, Roebuck). \$1.98 plus postage. Four-gore; adjustable straps.
Wards Cat. No.—6856 (Montgomery Ward). \$1.69 plus postage. Four-gore; adjustable straps.
MunsingWear (Munsingwear, Inc., NYC). \$1.25. Four-gore; adjustable straps. Ran in one direction.
Carter's (Carter Underwear Co., NYC). \$2.25. Two-piece; adjustable straps.
Kayser (Julius Kayser & Co.). \$2.25. Two-piece; adjustable straps.
Wards Cat. No.—6877 (Montgomery Ward). 82¢ plus postage. Two-piece; adjustable straps. Ran in one direction.

SHEETS muslin & percale

The average price of sheets is slowly going up, CU shoppers found. But laboratory tests show that if you buy carefully, you can still get good quality.

Despite OPA's well-worn "General Max," (the General Maximum Price Regulation, otherwise known as GMPR, which ordered a price freeze on most commodities) retail sheet prices continue their slow, upward creep. True, the creep is not universal; in fact, three of the sheets tested last year and retested now actually dropped in price, and six of them were unchanged. But on the remaining nine retests, price tags ranged 5¢ to 30¢ higher than they were a year ago. And, averaging the prices of all the retested sheets, they are more expensive by 4¢ each.

In addition to price standards, OPA has established quality standards for the five types of sheets most

widely sold: 180, 140, 128, 112, and "back filled." The numerical designations refer to the number of threads per square inch of the sheet fabric. "Back filled" is a lightweight but loosely woven (between 116 and 128 thread count) fabric, with low tensile strength and a high percentage of filler. It is a low-quality product which CU considers not worth buying. Sheets having thread counts below 180 are muslin. Thread counts of 180 or over are either utility percale (180 minimum) or true percale (200 minimum). OPA has set no standards for these "luxury" or "high-count" percale sheets.

According to OPA regulations, all sheets covered by its standards must

¹ For list of AMC Stores, see page 11 of the 1945 Buying Guide.

To make your sheets wear longer:

DO

- Buy the size that fits your bed. Allow five inches for shrinkage and another five inches for hems. (Measurements stated on labels represent torn size before hemming.)
- Launder sheets as soon as possible after they are removed from beds. Remove stains and mend tears before laundering.
- Put freshly laundered sheets at the bottom of the pile and take fresh supplies from the top to distribute wear evenly.
- Loosen the edges of the sheets all around before stripping beds.

DON'T

- Don't hang sheets to dry in a strong wind or allow them to freeze stiff.
- Don't press down folds when ironing sheets.
- Don't use a sheet as a laundry bag.

be labeled as to type and size at the time of manufacture. While there is nothing in the regulations to prevent wholesalers and retailers from removing even this scant information before the sheet reaches the consumer, all the sheets purchased by CU which fall into one of the OPA categories were labeled as to type and size. Only five of the 22 OPA-classified sheets carried additional useful information as to tensile strength, weight or the amount of sizing present.

OPA further requires that all irregular sheets be labeled as such, and sold at 10% less than the regular price. Evidently labels describing sheets as "seconds" or "irregulars" have very poor adhesive quality these days, however, for shoppers rarely see one. Of 11 sheets which CU found damaged to some extent, at least six had sufficiently serious flaws to be classified as seconds. Yet only one—*Penney's Beautycal*—was labeled "irregular" and sold at 10% discount.

A sheet with only minor flaws—small mend marks or oil stains which would not affect wear—is a good buy if its price is reduced. But such flaws as missing threads or threads not caught in the weave, mildew stains and badly frayed selvages do reduce the durability of a sheet and should cause you to reject it, whatever its price.

MUSLIN vs. PERCALE

The contest between muslin and percale sheets goes on year after year with neither side admitting defeat. But it should end in a draw. The more expensive percale is lighter and smoother than muslin because it

has a higher thread count and is woven from thinner yarn. On the other hand, you'll pay much less for a muslin sheet of comparable durability. If you have a choice, weigh the lower initial cost of muslin against percale's lower laundering costs (by the pound) and its finer, smoother feel. CU bought a good-quality muslin sheet for about \$2; a high-quality percale sheet generally costs about \$4. The average weight of all the percale sheets tested was 3.9 ounces per square yard; of the muslins, 4.6 ounces. Thus, at prevailing pound-laundry rates (from 12¢ to 15¢ a pound) a percale sheet can be laundered each time for about 5¢ less than a muslin sheet of the same size.

JUDGING QUALITY

Regardless of type, a good sheet will have a weave which is tight and firm. Hold the sheet up to the light; fabric with a well-balanced weave will allow the light to come through in small, even pinpoints. A loosely woven sheet often has an excessive amount of sizing. This can be detected by rubbing the cloth together between your hands. If a powdery substance falls out, you can be sure that too much sizing was used, and that when it washes out—as it will with the first laundering—the sleaziness of the sheet will be obvious.

A good sheet will have a reasonably high tensile strength and good resistance to abrasion. The recent development of resin finishes for sheets has increased their resistance to abrasion. Unlike sizing, these finishes—incorporated within the fibers themselves—do not come out readily when the sheet is laundered.

Sheets should not shrink excessively and they should be torn, not cut, to size.

When labels are missing, ask the retailer for information. Compare his description with the OPA requirements listed below.

| | Type 180 | Type 140 | Type 128 |
|---|----------|----------|----------|
| Thread Count (threads per square inch) | 180 | 140 | 128 |
| Tensile Strength (pull required to tear fabric) | 60 lb. | 70 lb. | 55 lb. |
| Weight (per square yard) | 3.6 oz. | 4.6 oz. | 4.0 oz. |

Sheets having a thread count below 128 and back-filled sheets are usually not worth buying.

A total of at least four inches should be allowed for hems in any sheet.

Selvages should be "tape"—woven heavier than the body of the sheet.

RATINGS

CU tested for all factors mentioned above which affect quality.

All sheets were also carefully examined for flaws. Seconds are noted in the ratings, but since sheets containing flaws can be rejected, the order of quality in the ratings is based on quality of fabric without regard to flaws.

Unless otherwise indicated, the prices given are for sheets measuring 81x108 inches, torn size. Types refer to OPA designations.

Percales

BEST BUY

The following was judged to offer the best value for the money:

Fieldcrest Duracal Type 180 (Marshall Field & Co., Chicago). \$1.95. 72x108. Available nationally at some department stores.



Don't use a sheet as a laundry bag if you want to preserve your sheets.

ACCEPTABLE

(In estimated order of quality)

Wamsutta Supercalc (Wamsutta Mills, New Bedford, Mass.). \$5.75. 90x108. Available nationally.

Pepperell Peeress (Pepperell Manufacturing Co., Boston). \$3.79. 72x108. Sheet purchased by CU was found to be a second. Available nationally.

Utica (Utica & Mohawk Cotton Mills, Inc., Utica, N. Y.). \$4.15. Available nationally.

Regent (Associated Merchandising Corp., Chicago). \$3.95. 72x108. Available at AMC Stores.¹

Filene's DeLuxe (Filene's, Boston). \$3.95. Available at Filene's Dep't Store, Boston.

Castle Bower (Fruit of the Loom, Inc., Providence, R. I.). \$4.15. Available nationally.

Cannon Lavenlawn (Cannon Mills, NYC). \$4.10. Available nationally.

Fieldcrest Duracalc (see "Best Buys").

Beauticale (J. C. Penney Co., NYC). \$3.25. This sheet was marked as a second, and was found to have only minor defects which would not appreciably affect wear. Available nationally at J. C. Penney Stores.

Cannon Cavalier Type 180 (Cannon Mills). \$2.59. 90x108. Available nationally.

Cannon Stellar Type 180 (Cannon Mills). \$2.14. Available nationally.

Indian Maiden (Nashua Manufacturing Co., Nashua, N. H.). \$2.35. 72x108. Available nationally.

Lord & Taylor Type 180 (made by Cannon Mills, for Lord & Taylor). \$2.50. Available at Lord & Taylor's Dep't Store, NYC.

Pepperell Park Lane Type 180 (Pepperell Manufacturing Co.). \$2.09. Sheet purchased by CU was found to be a second. Available nationally.

Pacific Type 180 (Pacific Mills, NYC). \$2.09. 81x99. Available nationally.

Filene's Empress (Filene's). \$2.09. Did not meet OPA standards for filling tensile strength. Available in Boston at Filene's Dep't Store.

Gimbel's Own Gabrielle Type 180 (Gimbel Bros., NYC). \$2.39. Did not meet OPA standards for tensile strength. Sheet purchased by CU was found to be a second. Available at Gimbel's Dep't Stores in NYC, Pittsburgh, Philadelphia and Milwaukee.

Muslins

BEST BUYS

The following were judged to offer the best value for the money:

Lady Pepperell Type 140 (Pepperell Manufacturing Co.). \$1.98. 81x99. Available nationally.

Pepperell Duchess Type 140 (Pepperell Manufacturing Co.). \$1.95. Heavyweight muslin. Available nationally.

¹For list of AMC Stores, see page 11 of the 1945 Buying Guide.

ACCEPTABLE

(In estimated order of quality)

Lady Pepperell (see "Best Buys").

Pepperell Duchess (see "Best Buys").

Fieldcrest Golden Gate Type 140 (Marshall Field & Co.). \$1.95. Rating based on over-all quality, but did not meet OPA standards for filling tensile strength. Heavyweight muslin. Available nationally at some department stores.

Fruit of the Loom Extra Weight Type 140 (Fruit of the Loom, Inc.). \$2.09. Rating based on over-all quality, but did not meet OPA standards for warp tensile strength. Available nationally.

Pacific Type 140 (Pacific Mills). \$2.09. Available nationally.

Dwight Anchor Type 140 (Nashua Manufacturing Co.). \$2.15. Rating based on over-all quality, but did not meet OPA standards for filling tensile strength. Available nationally.

Utica Type 140 (Utica & Mohawk Cotton Mills, Inc.). \$2.09. Available nationally.

Pequot Type 140 (Pequot Mills, Salem, Mass.). \$2.09. Heavyweight muslin. Available nationally.

Macy's Type 128 (R. H. Macy, NYC). \$1.59. Available at Macy's Dep't Store, NYC.

Cannon Type 128 (Cannon Mills). \$1.74. Available nationally.

Gimbel's Greeley Type 128 (Gimbel Bros.). \$1.89. 90x108. Available at Gimbel's Dep't Stores in NYC, Pittsburgh, Philadelphia and Milwaukee.

Filene's Budget Type 128 (Filene's). \$1.99. 90x108. Rating based on over-all quality, but did not meet OPA standards for filling tensile strength. Available at Filene's Dep't Store, Boston.

Bullock's "Sleeper" Type 128 (Bullock's, Los Angeles). \$1.85. Sheet purchased by CU was found to be badly damaged. Available at Bullock's Dep't Store, Los Angeles.

NOT ACCEPTABLE

The following was rated "Not Acceptable" because of very low resistance to abrasion and low tensile strength.

Everyday Quality Cat. No. 61 (Chicago Mail Order). \$1.33. Back-filled type. Sheet purchased by CU was found to be a second.

Oils & Shortenings

Some brands are satisfactory only for baking, and others are good for cooking as well. Test results indicate appropriate uses for each type and brand.

Can an oil that's good for salads be used for cooking? Can any one brand of shortening be used as successfully for frying as for baking? Is *Crisco* the only shortening that "keeps digestions happy," or is *Snowdrift*, which is seven cents a pound cheaper, equally digestible?

Such are the questions suggested by advertising claims made for the various salad oils and shortenings which vie with each other for consumer approval. CU's ratings of 13 brands of oil (for salads and cooking) and 14 brands of shortening (hydrogenated or blended vegetable oils) help answer these questions.

The importance of buying the fat or oil most suitable for your purposes is highlighted by marked price increases. The prices of ten oils tested in 1941 and retested for this report have gone up by amounts ranging from 4¢ to 26¢ a quart; the price gains for 13 shortenings range from 4¢ to 12¢ a pound.

FATS vs. OILS

Oils, which are liquid at ordinary temperatures, are less satisfactory

for baking most things than solid, plastic fats because, owing to their tendency to coalesce, they cannot be dispersed as evenly through the dough. For other cooking purposes, however, the choice of fat or oil is largely a matter of individual preference. Either is satisfactory for frying, provided the "smoke point" of the brand used is sufficiently high. Smoking indicates "cracking" or breaking down of the fat, and a temperature of about 400° F. is the minimum smoke point acceptable for a fat to be used in frying. Fats which smoke below this temperature are unpleasant to use for frying; furthermore, they cannot be used over and over again because they darken in color and develop off-flavors. But those which smoke only at this or a higher temperature may be used repeatedly for frying most foods if food particles are strained out after each use.

The disappearance from the market of fine, imported olive oil, with its characteristic flavor unrivaled for salad dressings and sauces, has increased the successful exploitation of

other edible vegetable oils and has brought a wider recognition of the fact that completely neutral, deodorized oils are capable of enhancing the flavor of other foods even though they have no flavor of their own. Most widely used, both alone and in blends, are peanut, cottonseed, corn and soya bean oils.

Peanut oil is the best of these, ranking next to olive oil in stability and general quality. It can be bleached almost water-white and is ideal for blending with olive oil to lower cost without impairing flavor. The rather harsh flavor of most of the olive oil now obtainable can, in fact, be improved by mixing one part with four parts of a refined peanut oil.

Most cottonseed oil is also of excellent quality. Improvements in processing methods have made inexcusable the production of an inferior brand.

Corn oil, when used alone, is usually undesirable. Because it gives off a strong odor when used for frying, it is most often blended with other oils. Despite improvements in the processing of corn oil, it cannot be as completely deodorized as peanut or cottonseed oil.

Least satisfactory of all, because of its tendency to "revert" and acquire a painty or fishy odor and taste, is soya bean oil. Cooking brings out this objectionable odor and flavor even in soya oil which has been well processed. For this reason it is most used where its taste is masked or obliterated—as in mayonnaise, salad dressing and hydrogenated products.



Most shortenings can be used satisfactorily for baking . . .

Sweet Life Soya Oil deserves mention as an exception. It was a well-finished oil with a sweet flavor, good keeping qualities and very slight odor in cooking.

FATS FOR BAKING AND FRYING

The shortenings tested were of two types: *blended animal and vegetable fats* and *hydrogenated vegetable oils*. Until about 30 years ago lard was the principal shortening used. But cottonseed oil displaced it when our abundant production spurred efforts to find an outlet for this oil.

Early experiments resulted in a shortening with a lardlike consistency, obtained by blending cottonseed oil with a hard fat such as oleostearin (beef fat) in proportions sufficient to give the oil proper consistency and plasticity. These blended vegetable and animal fats tend to become rancid faster than do hydrogenated vegetable oils, but carefully controlled processing and the use of government-approved anti-oxidants minimize this tendency.

The next development was the process of hydrogenation which changes liquid oils into solid fats. This is accomplished by passing hydrogen—a harmless, tasteless gas—through the oil. Hydrogenated oils are more stable than blended shortenings, and are odorless and tasteless.

These products are generally used as shortenings for baked goods. But any brand whose smoke point is not too low will be found satisfactory for frying as well.

FATS IN THE DIET

So far as nutritional value is concerned, there is little difference between liquid oils and hydrogenated vegetable oils or animal fats. All fats are valuable as concentrated sources of energy—about nine calories per gram as compared with about four calories each furnished by proteins and carbohydrates—and they are used by the body in other ways. In addition to being the carrier medium for the fat-soluble vitamins A, D, E and K, fats play a role in various metabolic processes such as the absorption of thiamine (vitamin B₁), carotene (vitamin A), calcium and lactose (milk sugar). Moreover, recent studies indicate that the fatty acids present in food fats are essential to the building of body cells. They cannot be synthesized by the body but must be assimilated from food fats.

Recent investigations indicate that there is no foundation for the popular belief that fats and fried foods are harmful to persons with normal digestive apparatus. It is true that foods rich in fats tend to stay in the stomach for a long time because fat surrounding protein and carbohydrate particles must be digested away before the digestive juices can get to work on the proteins and carbohydrates. But this process causes no difficulty except to persons with gall-bladder, liver or bile-duct disorders.

Don't be misled by ads claiming super-digestibility for any brand of shortening. For it is not known that any one fat or oil is more digestible than another. As Dr. Walter C. Alvarez of the Mayo Clinic said in a letter to Consumers Union, "As far as I know it doesn't make any difference to the average person with a good digestion which fat is used in a shortening or in mayonnaise. The only person who is decidedly influenced is the man who happens to be highly sensitive to one of the oils. If he gets hold of the wrong one he is going to be ill."

HOW CU TESTED

The salad and cooking oils were examined for free acid, smoke point, reaction to cold, keeping quality, flavor and odor both before and after cooking, and color. Shortenings were examined for free acid, smoke point, keeping quality, odor on heating, melting point, texture, and color.



. . . but some of the same brands smoke badly in the frying pan.

The smoke point tests were done to determine which of the fats or oils would be suitable for use in frying and sautéing as well as for shortening and salad dressings. Tests for free acid revealed the degree to which the products were purified and how well they were processed, a high acidity indicating insufficient refining or deodorizing.

The shortenings and oils have good keeping qualities in general. Their relative stability, however, has some significance as an indication of their composition, which is seldom declared in label statements. Hydrogenated soya oil, for example, becomes rancid less readily than hydrogenated cottonseed oil, though both keep well enough; and animal fats are usually less stable than vegetable fats.

In the following ratings, salad and cooking oils are listed as "Good," "Fair" and "Not Acceptable" within each of two groups—those recommended for salad dressings and for frying, and those recommended for salad dressings and other flavoring purposes only. The shortenings are also separated into two groups—those recommended for baking and frying, and those suitable for baking only; they are listed in order of quality within each group.

Oils

ACCEPTABLE

The following oils are recommended for both salads and cooking; general quality was found to differ very little within a group.

GOOD

(In order of increasing cost per quart)

Durkee's Peanut Oil (Durkee Famous Foods, N. Y.). \$1.80 for 1 gal. Available nationally.

Royal Cook Soya, Corn & Cottonseed Oil Mixture (Agash Refining Corp., Brooklyn, N.Y.). 46¢ for 1 qt. Available nationally.

Wesson Cottonseed Oil (Wesson Oil and Snowdrift Sales Co., New Orleans). 52¢ for 1 qt. Available nationally.

Sweet Life Soya Bean Oil (Sweet Life Food Corp., Brooklyn, N.Y.). 29¢ for 1 pt.

Rokeach Peanut Oil (I. Rokeach & Sons, Inc., Brooklyn, N.Y.). 62¢ for 1 qt. Available in NYC.

FAIR

(In order of increasing cost per quart)

Ann Page Cottonseed Oil (A & P). 46¢ for 1 qt. Available nationally at A & P Stores.

Pride of the Home Soya Oil (Garber-Eagle Oil Corp., B'klyn). 60¢ for 1 qt. Available nationally.

The following oils are recommended



Tests took this oil down a few pegs—from "Superior" to "Not Acceptable." Its label claims "No Smoke, No Odor, No Peanut Taste." But it smoked and it smelled in CU's lab.

for salads only, for the reasons stated. Listed in estimated order of quality.

Co-op Soya Bean Oil (National Co-operatives, Inc., Chicago). 50¢ for 1 qt. Very good for soya oil, but rather low smoke point. Available nationally at Co-op Stores.

Gold Medal Soya Bean Oil (Garber-Eagle Oil Corp.). 29¢ for 1 pt. Odor on cooking quite strong and characteristically "fishy." Poor keeping quality. Available nationally.

Italian Cook Corn & Cottonseed Mixture (Agash Refining Corp.). 31¢ for 1 pt. Smoke point quite low. Rather strong odor. Available nationally.

Mazola Corn Oil (Corn Products Refining Co., Argo, Ill.). 56¢ for 1 qt. Rather strong odor on cooking. Some-

**See Back Cover
for CU's new rates
for Groups of Five**

what low smoke point. Available nationally.

NOT ACCEPTABLE

Bohack's Cottonseed Oil (H. C. Bohack Co., Brooklyn, N.Y.). 25¢ for 1 pt. Failed the cold test and was darker than standard for salad oil. Gave a pronounced odor on cooking and had a somewhat low smoke point. These things indicate carelessness in preparation for cottonseed oil.

Planters Hi-Hat Peanut Oil (Planters Edible Oil Co., Suffolk, Va.). 31¢ for 1 pt. Poor grade of peanut oil. Dark, with high acidity and low smoke point. Incompletely deodorized or processed for the market.

Shortenings

All were hydrogenated vegetable oils unless otherwise stated. Listed in estimated order of quality within each group. Price is for 1 lb. unless otherwise noted.

The following shortenings are recommended for both cooking and frying:

Co-op (National Co-operatives, Inc., Chicago). 21¢. Available nationally at Co-op Stores.

Shurfine (National Retailer-Owned Grocers, Inc., Chicago). 79¢ for 3 lb. Available nationally.

Durkee's (Durkee Famous Foods). 24¢. Available on the Eastern Seaboard.

Armour's Vegetole (Armour & Co., Chicago). 22¢. Hydrogenated vegetable and animal fats. Available south of the Mason-Dixon line.

Dexo (A & P). 22¢. Available nationally at A & P Stores.

Snowdrift (Wesson Oil and Snowdrift Sales Co.). 19¢. Available nationally.

Royal Satin (Table Products Co., Oakland, Calif.). 22¢. Available on the Pacific Coast.

The following shortenings were found satisfactory except for high-temperature frying, where their low smoke points would be objectionable:

Marvo (First National Stores, Inc., Somerville, Mass.). 22¢. Available in New England and Westchester County, N.Y.

Jewel (Swift & Co., Chicago). 26¢. Hydrogenated vegetable and animal fats. Available in the South and on the Pacific Coast.

Spry (Lever Bros. Co., Cambridge, Mass.). 24¢. Available nationally.

Sno-Kreem (Independent Grocers' Alliance Distributing Co., Chicago). 24¢. Available nationally at I G A Stores.

Crisco (Proctor & Gamble, Cincinnati). 26¢. Available nationally.

NOT ACCEPTABLE

Bake-Rite (Wilson & Co., Chicago). 24¢. Had "fishy" odor on heating; very high acidity.

Fluffo (Proctor & Gamble). 19¢. Very high melting point and slightly high acidity. Had rather a low smoke point.

GREEN BEANS

A guide to quality of 113 brands, based on tests made for CU by government graders

Canned green beans—good, bad and indifferent—are appearing in so many new and different jackets this year that the trial and error method of brand selection, necessitated by the virtual absence of grade labeling, has a pretty slim chance of success. In fact, the housewife may pay top price a good many times before accidentally hitting top quality.

CU purchased 113 brands for testing by government graders—more than twice the number of brands purchased in May 1944, when green beans were last rated. Many of these had unfamiliar names, and only eight carried the government grading shield. The labels of most of them gave no information other than to indicate that the cans contained green beans, either "cut" or "whole." A few labels described the beans inside as being of the "Refugee," "Blue Lake" or "Stringless" variety, but gave no hint as to quality.

A rather wide price range—from 10¢ to 25¢ for a No. 2 (1 lb., 4 oz.) can—adds to the confusion of the shopper who is confronted with a solid row of mysteriously labeled and branded cans. For CU found many Grade A and Grade B brands priced as low or lower than some testing Grade C or "Not Acceptable."

Nutritionally, a "Best Buy" in canned green beans makes an economical and valuable contribution to the diet. String beans are a good source of vitamins A and G (riboflavin), and many essential minerals. They also contain fair amounts of vitamins B₁, C and niacin. Moreover, experiments have shown that vitamin loss in the canning process is very slight, although about 30% of the B₁ and G vitamins and about half the vitamin C content are carried by the liquor in which the beans are packed. This liquor should be used for vegetable cocktail (alone or in combination with tomato juice), soup or gravy.

Green beans are packed in salted or unsalted liquor in one of four styles: "cut" crosswise in lengths of from one to one and one-half inches; "shoestring," cut diagonally into thin strips; "whole"; or cut to the size of the can and packed upright, "aspara-

gus style." Before they are canned the beans are snapped, graded for size, washed, and blanched in boiling water or steam. This blanching process has proved successful as a means of reducing vitamin loss.

Good canning methods are important, but even the most careful processing cannot insure high quality if the beans used are over-mature. Beans which are tough, stringy, withered or defective when they are picked cannot be improved by the canning process.

To rate Grade A or Grade B, canned green beans must be tender; substantially whole for the style of packing; uniform in color; and free from tough, inedible strings, stems or other defects. They must have the flavor of young, tender, immature beans; and the liquor in which they are packed must be practically clear.

From two to eight (in most cases, four) cans of each brand were examined by U. S. Department of Agriculture graders for these characteristics. Drained weight (weight of beans without liquid) was also checked, and brands which failed to meet specifications for drained weight are so described in the ratings. Degree of maturity was the factor given greatest consideration,

with flavor and absence of defects next in importance. In effect, degree of maturity determines tenderness and flavor.

In the following ratings, brands are listed in the order of decreasing score. It should be understood that quality differences are slight between brands placed close together in the same category. Price is for a No. 2 (1 lb., 4 oz.) can unless otherwise noted.

ACCEPTABLE

(In estimated order of quality within each grade)

GRADE A

The following were tender, uniform, unbroken pods, free from defects, and packed in clear liquor:

Geneva Special (Geneva Preserving Co., Geneva, N. Y.). 17¢. Available in Va., N.C., and NYC.

Lily White (R. H. Macy & Co., NYC). 18¢ for #2 can; 17¢ for 1-lb. jar. Available at Macy's Dep't Store, NYC.

Fern dell (Sprague, Warner & Co., Chicago). 22¢. Available nationally.

Tartan (Alfred Lowry & Bros., Philadelphia). 20¢.

Briargate (Table Prod. Co., Oakland, Calif.). 17¢. Available west of the Missouri River; also in Washington, D.C. and NYC.

S and W (S and W Fine Foods, Inc., San Francisco). 23¢. Available nationally.

Iona Grade C (A&P, NYC). 12¢. Labeled Grade C, but tested Grade A. Available nationally at A&P Stores.

Snider's Lily of the Valley (Snider Packing Co., Rochester, N.Y.). 16¢. Available nationally.



U. S. government grading shields on these three green-bean labels tell the housewife what she wants to know. All Grade A and well below the top of the current price range, these brands (read from left to right) sold for 15¢, 18¢ and 19¢ a can.

H. G. Prince & Co's. (H. G. Prince & Co., Fruitvale, Oakland, Calif.). 25¢.
IGA (Independent Grocers' Alliance Distrib. Co., NYC). 18¢. Available nationally at IGA Stores.
Yellowstone (Paxton & Gallagher Co., Omaha). 19¢.
Co-op Grade A (National Co-operatives, Inc., Chicago). 23¢. Available nationally at Co-op Stores.
Del Monte (Calif. Packing Corp., San Francisco). 19¢. Available nationally.
Baxter's Finest U.S. Grade A (H. C. Baxter & Bro., Brunswick, Me.). 19¢. Available in New England and in NYC at some department stores.
Oregon Blue Lake U.S. Grade A (Blue Lake Producers Cooperative, Salem, Ore.). 23¢. Available nationally.
Jack and the Bean-Stalk U.S. Grade A (Blue Lake Producers Cooperative). 18¢. Available nationally.
Gold Crest U.S. Grade A (Christensen Prod. Corp., Weslaco, Tex.). 15¢.

GRADE B

The following were reasonably tender, practically uniform, unbroken pods, reasonably free from defects and packed in reasonably clear liquor:

National D (National Distributing Co-operative Co., Boston). 19¢.
Marshfield (Marshfield Canning Co., Marshfield, Wisc.). 17¢. Available in Northcentral States.
Rainer (Washington Packers, Inc., Sumner, Wash.). 12¢.
Whatcom (C. S. Kale Canning Co., Everson, Wash.). 12¢.
Royal Scarlet (R. C. Williams & Co., NYC). 19¢. Available nationally.
Ecco (Economy Grocery Stores, Boston). 15¢. Available at Economy Grocery Stores and Stop & Shop Supermarkets in Mass. and Conn.
Iris (Haas, Baruch & Co., Los Angeles). 19¢. Two of four cans tested found below standard in drained weight; Available in Southern Calif. and Ariz.
Hart (W. R. Roach Co., Grand Rapids, Mich.). 15¢. Available at Roulston Stores, NYC.
Everson (C. S. Kale Canning Co.). 18¢.
Blackbird (H. P. Lau Co., Lincoln, Nebr.). Available in the Midwest.
Trupak (Haas Bros., San Francisco). 19¢. Available on the West Coast.
Charles & Co. Vacuum Packed (Charles & Co., NYC). 16¢ for 13½ oz. (Net contents same as for #2 can). Available at Charles & Co., NYC.
Rose-Dale (Libby, McNeill & Libby, San Francisco). 17¢. Available nationally.
Black & White (Haas, Baruch & Co.). 17¢. Available in Southern Calif. and Ariz.
Cream of the Valley (Chas. L. Diven, Inc., Gentry, Ark.). 11¢. Two cans tested slightly below standard for drained weight.
Stokely's Finest (Stokely Bros. & Co., Indianapolis). 20¢. Variable, Grade A to Grade B. Available nationally.

American Home (National Tea Co., Chicago). 15¢. Available nationally at American Tea Stores.
H. E. B. (H. E. Butt Grocery, Harlingen and Corpus Christi, Tex.). 15¢.
Delford (Middendorf & Rohrs, NYC). 17¢. Available in NYC.
Tahoe (Mission Valley Canning Co., San Jose, Calif.). 19¢. Available on the West Coast.
New York's Best (New York Wholesale Grocery Co., NYC). 16¢. Available in NYC.
Richelieu (Sprague, Warner & Co.). 20¢. Available nationally.
Fruitidor (L. Bamberger & Co., Newark, N.J.). 20¢. Available at Bamberger's Dep't Store, Newark.
Pinehurst (Bison Canning Co., Angola, N.Y.). 18¢.
Filigree (Filigree Quality Foods, Inc., Jersey City, N.J.). 19¢. Available in N.Y. and N.J.
White Rose (Seeman Bros., Inc., NYC). 19¢. One of four cans tested below standard for drained weight. Available nationally.
Cortland (Halstead Canning Co., Cortland, N.Y.). 19¢. Variable, Grade A to Grade B.
Bohack's Best (H. C. Bohack Co., Brooklyn, N.Y.). 18¢. Available at Bohack Stores in Brooklyn and Long Island.
Grand Union (The Grand Union Co., NYC). 16¢. Four cans tested slightly below standard for drained weight. Available at Grand Union Stores in N.Y., N. J., Penna., Mass. and Conn.
Gardenside (Regent Canfood Co., San Francisco). 14¢. Available at Safeway Stores in N.Y., N.J., Washington, D.C. and Richmond, Va.
S & B (Scheifer & Barst, NYC). 17¢.
S. S. Pierce Co. Red Label (S. S. Pierce Co., Boston). 16¢. One of four cans tested substandard with respect to maturity. Available in New England.
Checker (Seeman Bros., Inc.). 13¢. Variable, Grade A to Grade B.
Richmond (First National Stores, Somerville, Mass.). 15¢. Variable, Grade A to Grade C. Available at First National Stores in New York and New England.
Lakeside (Lakeside Packing Co., Manitowoc, Wisc.). 14¢.
Roosevelt (Karasiak Bros. Co., Chicago). 17¢. Available in Chicago.
Clipper (Trade Wind Foods, Inc., NYC). 15¢. Available in the Southeast, the Pacific Coast, NYC and Chicago.
Kroger's Avondale Quality (Kroger Grocery & Baking Co., Cincinnati). 13¢. Two of four cans tested below standard for drained weight. Variable, Grade B to Grade C.
Palm Beach Gardens (Apte Bros. Canning Co., Tampa, Fla.). 18¢. Variable, Grade A to Grade C. Available nationally.
Co-op Grade C (National Co-operatives,



You can't tell quality by brand name or price. PREMIER beans, at 23¢ a can, tested Grade B; SNIDER'S Lily of the Valley, 16¢, was found to be Grade A.

Inc.). 16¢. Labeled Grade C, but tested Grade B. Available nationally at Co-op Stores.
Premier (Francis H. Leggett & Co., NYC). 23¢. Three of four cans tested below standard for drained weight. Available east of the Mississippi and in Texas.
Nation Wide (Nation-Wide Service Grocers, Brockton, Mass.). 17¢. Available in N.Y.; Penna.; New England; Washington, D.C.; St. Louis, Chicago, Toledo.
Snider's (Snider Packing Co.). 17¢. Available nationally.
Kuner's (Kuner-Empson Co., Brighton, Colo.). 17¢. Available in the Rocky Mountain area.
Cherry Valley (Jewel Food Stores, Chicago). 14¢. Variable, Grade B to Grade C. Available nationally at Jewel Tea Stores.
Fame (Fame Canning Co., Indianapolis). 17¢. Available nationally.
Bernice (Krasne Bros., NYC). 18¢. Available in NYC, Penna., Conn., N.J., R.I. and Mass.
Adams Gardens (Adams Gardens Food Prod. Co., Harlingen, Tex.). 13¢. Available nationally.
Hall's (George H. Hall & Sons, Inc., Dexter, Me.). 13¢.
Linko (Grainger Bros. Co., Lincoln, Nebr.). 13¢. Available in Nebraska.
Rob-Ford (American Stores Co., Philadelphia). 13¢. Available nationally at American Stores.
Kitchen Garden Whole Beans (Grand Union Co.). 20¢. Variable, Grade A to Grade C. Available at Grand Union Stores in N.Y., N.J., Penna., Mass. and Conn.
Elmdale (National Retailer-Owned Grocers, Inc., Chicago). 19¢. Two cans tested slightly below standard for drained weight. Available nationally at NROG Stores.

Sweet Life (Sweet Life Food Corp., Brooklyn, N. Y.). 18¢ for 1-lb. jar. Two jars tested below standard for drained weight. Available in N.Y.; Pittsburgh; Detroit and Springfield, Mass.

O'sage (Cherokee Prod. Corp., Haddock, Ga.). 13¢. Available nationally.

Festival Brand (Calif. Packing Corp.). 14¢. Available nationally.

Island Manor (H. C. Bohack Co.). 13¢. Available at Bohack Stores in Brooklyn and Long Island.

S & S (Schmidt Canning Co., San Benito, Tex.). 12¢.

Farmdale U.S. Grade B (American Stores Co.). Available nationally at American Stores.

GRADE C

The following were almost mature, fairly uniform, unbroken pods, fairly free from defects, and packed in liquor which might be somewhat cloudy:

Sunburst (Washington Packers, Inc.). 12¢.

Indian River (J. W. Holloway, Ft. Pierce, Fla.). 13¢.

Park Lane (Gerber Bros., Brooklyn, N.Y.). 19¢. Available in NYC.

Blossom (Sprague, Warner & Co.). 15¢. Variable, Grade B to Grade C. Available nationally.

Cottage (Lord-Mott Co., Baltimore). 11¢. Available in Boston, NYC, Philadelphia, Baltimore and Washington, D.C.

Oriole (Reid, Murdoch & Co., Chicago). 16¢. Available nationally.

Pride of the Farm (Thomas Roberts & Co., Philadelphia). 16¢. Available nationally.

Bulliard's Evangeline (Evangeline Pepper & Food Products, St. Martinville, La.). 13¢. Available nationally.

Yacht Club (Reid, Murdoch & Co.). 23¢. Available nationally.

Russell's Best (Russell-Black & Co., Hendersonville, N.C.). 18¢. Three of four cans tested below standard for drained weight.

Oval (Gibbs & Co., Baltimore). 13¢.

Co-op Grade B (National Co-operatives, Inc.). 17¢. Labeled Grade B, but tested Grade C. Available nationally at Co-op Stores.

Princess (Francis H. Leggett & Co.). 12¢ for 10 oz. Variable, Grade B to Grade C. Available in the East.

Happy-Vale (Emery Food Co., Chicago). 16¢. Available nationally.

Sea View (Mason Canning Co., Pocomoke City, Md.). 12¢. Variable, Grade A to Grade C. Available east of the Mississippi.

Mill High (Kuner-Empson Co.). 12¢. Available in the Rocky Mountain area.

Plymouth Maid (Plymouth Packing Co., Indianapolis). 13¢.

West Farms (Washington Packers, Inc.). 18¢.

Genesee Valley (Snider Packing Corp.). 17¢. Available nationally.

Duchess (Krasdale Foods, Inc., NYC).

16¢. Available in NYC, Penna., Conn., N.J., R.I. and Mass.

Sunbeam (Francis H. Leggett & Co.). 18¢. Available east of the Mississippi and in Texas.

Hartex (Harlingen Canning Co., Harlingen, Tex.). 10¢.

Harvest Inn (Marshall Food Products Co., Marshalltown, Iowa). 12¢. Available in the area between the Mississippi and the Rocky Mountains.

Hurlock U. S. Grade C (American Stores Co.). 11¢. Available nationally at American Stores.

Newport (Newport Can Co., Indianapolis). 11¢. Available in Indiana.

Our Farm (Starkey Farms Co., Morrisville, Penna.). 17¢.

Roberts (Roberts Bros., Inc., Baltimore). 14¢. Two of four cans tested slightly below standard for drained weight. Available nationally.

Golden Hill (Phillips Sales Co., Cambridge, Md.). Available nationally.

Superfine (Charles G. Summers, Jr., Inc., New Freedom, Penna.). 15¢. Available on Eastern Seaboard.

Shamrock (Uco Food Corp., Newark, N.J.). 13¢. Available in NYC and northern N.J.

Golden Harvest (Steinfeldt-Thompson Co. Canneries, Dania, Fla.). 13¢. Available in NYC, New England, Ohio, Ore. and Wash.

Lakeview (W. H. Roberts & Co., Baltimore). 15¢. One of two cans tested slightly below standard for drained weight.

Lord Fairfax (Apte Bros. Canning Co., Miami). 10¢. Available nationally.

Apte (Apte Bros. Canning Co.). 19¢. One of four cans tested substandard with respect to clearness of liquor. Available nationally.

NOT ACCEPTABLE

The following were rated "Not Acceptable" for the reasons stated:

Sweet Home (Krenning Schlapp Grocer Co., St. Louis). 18¢. One can showed excessive defects.

Family (D. E. Foote & Co., Baltimore). 15¢. All cans tested considerably below standard for drained weight.

Crown of Maryland (Preston Canning Co., Preston, Md.). 15¢. Substandard with respect to tenderness, texture and flavor. One can showed presence of foreign material.

HEATING your HOME

Shortages of preferred fuels make furnace operation difficult this year. CU's consultant tells how to make heating plants behave with the inferior coals and oils now available.

Periodical crises in various types of fuel have brought big headaches to householders during the war years. Many of them had hardly finished making the last payment on a brand-new oil burner, or converting the old coal burner to oil, when the oil shortage came along, and they were advised to shift back to coal. Then, just as they had finished converting, coal became as hard or even harder to get than oil. To judge from CU's correspondence, householders are having a great deal of grief with both coal and oil this year, and they want to know what to do about it. Many are having trouble making their oil burners behave with the dark, muddy stuff that is now being delivered in place of the clear, straw-colored fluid they remember.

And the householders whose plants burn coal are no more fortunate. Clean, slow-burning anthracite—standby of the Eastern States—is hard to get, and many are finding it difficult to use bituminous coal as a substitute. Lucky ones can get coke, but even that is not as easy to burn

as the hard coal of the old days. And even bituminous coal is often not available in the desired quality or size.

The fact is that there is no way—until the old fuels are back—of obtaining the same easy and satisfactory operation from your heating plant that you used to have. But many things can be done at little expense to simplify your heating problems.

COAL

Most troubled by the anthracite shortage are the thousands of home owners in the Northeast who, up to now, thought that easily-fired, clean-burning anthracite was the only solid fuel for home heating. As a matter of fact, the Northeastern States are the only ones where anthracite has been generally available, for shipment from Pennsylvania—where practically all the anthracite is mined—has always been too costly to make the use of hard coal feasible in the West and the South.

But the coal problems do not end

with the anthracite shortage. Briefly, the difficulties likely to be encountered come down to the following:

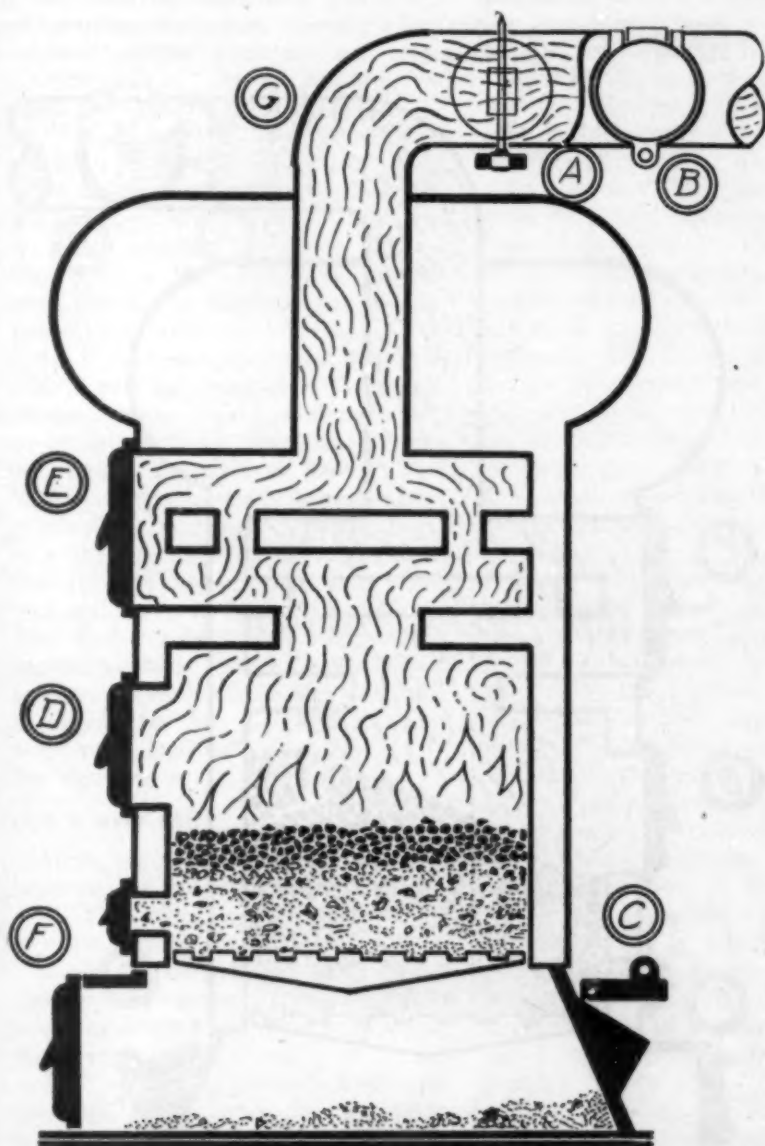
1. In most places, whatever coal is available is of poorer quality.

2. Often the desired sizes are not available; you must take what you can get, and make the best of it.

3. Substitute fuels must be used. You may have to use coke or bituminous coal instead of anthracite; you

may get a low-grade, smoke-producing bituminous coal instead of high-grade bituminous. Fuels not fit for your heating equipment may have to be used in it, and adjustments may be necessary.

4. The fuel that can be obtained must be stretched, either voluntarily, in answer to the government's pleas to share available supplies, or because you can't get as much as formerly.



IF YOU ARE FIRING BITUMINOUS COAL, small size coal, or coal of inferior quality, you can get better heat by following these suggestions: See that your dampers are in good working order. When you want a fast fire, the turn damper (butterfly damper) (A) should be wide open; the smokepipe check damper (B) should be tightly closed; and the ashpit air intake damper (C) should be wide open. You may have to maintain a "thin fire-bed" (D), shaking the grates occasionally to keep a free flow of air. Keep flue passages (E) clean, and seal off any air leaks (F) with furnace cement. It is important that the chimney be clean, and that the smokepipe (G) is tight fitting, free from plugging, and free of holes. You may need a new one if your smokepipe is more than three or four years old.

SMALLER SIZE

If the coal you can get is much smaller in size than you've previously burned, these suggestions may be helpful:

Keep in mind that small-sized coal requires stronger draft than the larger sizes. Make sure, therefore, that your chimney and smokepipe are clean, and replace the smokepipe if it is old and leaky. Check the dampers, and see to it that when they are set for high draft they give the maximum that the chimney can provide. Clean out the flues of your boiler or furnace, and keep them clean; you may have to clean them once or twice a month during the coldest months.

A "thin" firebed may be necessary, especially when you want the heat to come up quickly. Fire a little coal at a time, therefore, so that a thick layer of the small coal does not pack tight, preventing a flow of air through it. To encourage the flow of air, you'll probably have to set the dampers for maximum draft more of the time than you did before. Even with this, you'll probably have to get up a half hour earlier to tend the furnace, if you want to get the house warm at the accustomed hour.

To avoid "gas puffs," to have the fire pick up as quickly as possible and to get as much heat as possible from the coal you burn, leave a "bright spot" when you add small-size coal to the fire.

Use the grate shaker gingerly if you are using a small-size coal on grates not designed for it; otherwise much of your fire may fall into the ashpit. If you have any large-size coal, put it on the grates first as a foundation for the smaller pieces.

If you have no large coal at all, you may have to adapt your grates to the smaller sizes. This can be done—temporarily at least—by wiring heavy-mesh wire screening or metal lath over the regular grate bars. Or, if you are lucky and persistent, you may be able to buy special grates for the small-size coal.

An ashpit blower—if you can get one—will help bring up the heat more quickly when small sizes are used.

COKE

If you start using coke, you'll encounter two problems:

1. Coke is light as compared with coal, and takes up lots of space in the firebox. Unless you have a furnace or boiler that is oversize for the

house, it may not hold enough coke to give heat over a cold night. Shovel in as much coke as you can get through the firing door. The front of the boiler or furnace should be full of coke to the level of the firing door; the back should be piled as high as possible, so that the addition of another shovelful will make the coke roll out on the cellar floor.

2. Coke makes a porous firebed that is hard to "hold back" or damp. Consequently, your heating plant may need damper repairs or adjustments, or even the addition of a butterfly damper. Most butterfly dampers are made with a hole through the center, so that there is considerable draft even when the damper is closed. You may have to close this center hole by bolting in a piece of tin or other sheet metal.

When using coke, shake the grates gently; otherwise you're likely to wind up with large amounts of burning coke in the ashpit. Often the ashes run through the grates like sand, followed immediately by first small, then broken-up large pieces of burning coke. Gentle shaking, once a day, is generally sufficient. It is best to leave a layer of ashes to help "hold back" the fire, which tends to run away when coke is burned.

BITUMINOUS COAL

If you are using bituminous coal for the first time, you probably won't like it. Bituminous coal is much inferior to anthracite in the ease with which the fire is tended, and in producing smoke and soot. But you can make it work; in many areas people have always had to put up with locally-mined, coking, smoke-producing bituminous coal.

The bituminous coals from different coal fields differ greatly. Some—though this is rare—can be burned clean without forming soot and smoke. Some form big clinkers. Some tend to "coke"; the pieces may fuse together to asphalt-like consistency when the heat hits the coal, in which case you'll have to use a slice bar or a poker to keep the air coming through. On the other hand, air-holes tend to burn through the firebed with some varieties, and frequent patting-down is needed.

Even with relatively poor coal there are ways to keep down the amount of soot and smoke, and to get as much heat as possible.

In the first place, avoid covering all the live coal with fresh coal when

you add coal to the firebed. Put in the new coal either at the back or on both sides of the established firebed; the point is to have flames from the coals already burning ignite the dense gases from the new coal.

The most nearly smokeless burning you are likely to get with hand-fired bituminous coal will come when you build up a big blaze, to heat the house on a sub-zero morning.

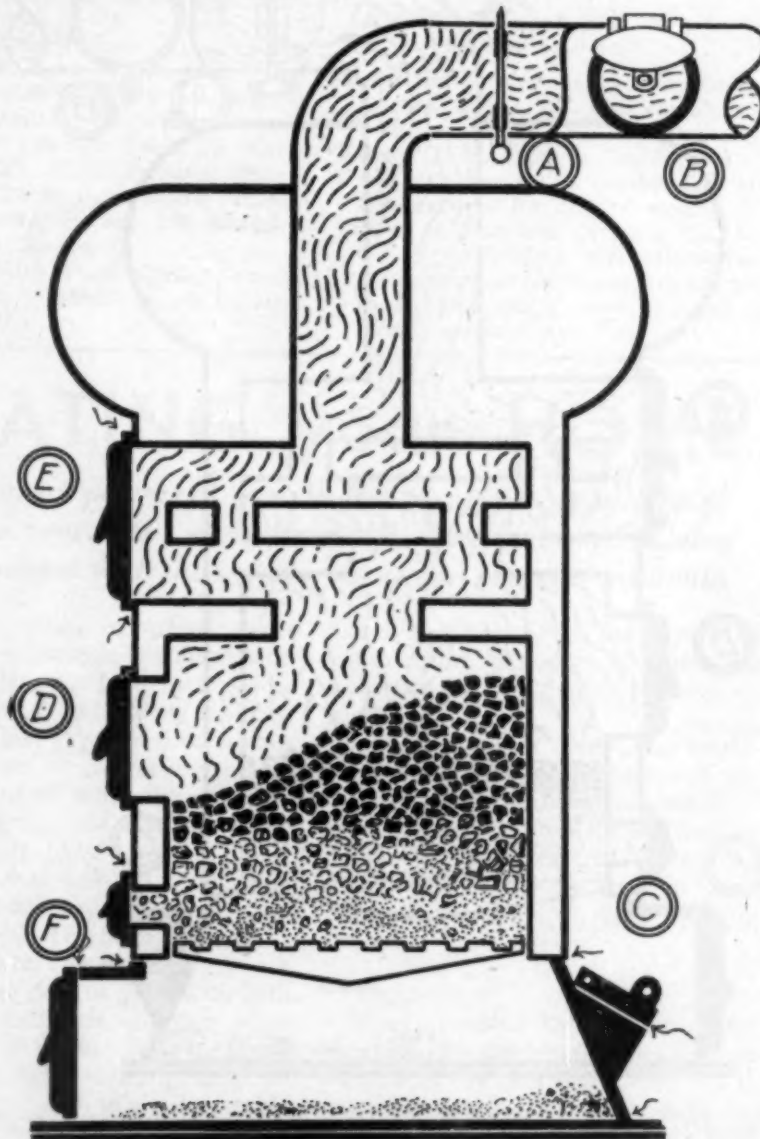
If you use bituminous coal regularly, a good bituminous stoker—if you can get one—will eliminate most

of the nuisance.

You'll have to clean your flues more often with bituminous coal—probably about twice a month. For soot and smoke fill them up quickly, and interfere with efficiency and safety.

OIL

Heating consultants report a variety of complaints from householders who own oil burners. In one place, a burner owner complains that his burner's nozzle, which never



IF YOU ARE FIRING COKE, the following will help you hold a fire overnight: Make doubly sure that your dampers are in good condition; then set them as shown in the diagram when you are banking for the night. Close the turn damper (butterfly damper) (A); open the smokepipe check damper (B) as wide as possible; close the ashpit air intake damper (C). If you still have difficulty holding back the fire after this has been done, you may have to install an additional check or turn damper in the smokepipe, or fasten pieces of metal over the opening in the present turn damper. In addition, add as much coke as possible, each time you fire the furnace, heaping it up at the back of the grate (D).

plugged before, stops up and requires nursing by a serviceman every two weeks. In another place, there are smells from a burner which had always behaved like a perfect gentleman. Another oil burner fails to light on cold mornings. Still another has had to be put on a convalescent diet of kerosene; it plays dead dog when it gets a dose of what the oil supplier swears is "the same grade as last year." Why are all these oil burners that never had bad habits before acquiring them?

Nine out of ten oil heating systems have, in the past, used "No. 2" or "No. 3" fuel oil. These were practically interchangeable; in fact, they were rather frequently interchanged. Many oil suppliers carried only No. 2; they supplied both No. 2 and No. 3 from the same tank. In the past, the oil you received was a clear, practically odorless, straw-colored fluid. Now when you order No. 2 or No. 3, you get, instead of the transparent, yellow liquid, a dark-brown or black substance which one oil expert aptly describes as looking like "a fifty-fifty mixture of kerosene and crankcase drainings." Furthermore, it is likely to have an obnoxious odor that spreads through the house when you spill even a few drops. (Note: The dark oil described above is being delivered in most cities as this is written. If you've been lucky enough to avoid it so far, it's sheer chance; your next load will probably be of the new variety.)

OLD & NEW OIL

Here are some of the differences between the old oil and the new:

1. The new, darker-colored fluid is more difficult to burn well.
2. Most burners will function on the new oil, though some will give odors or smoke, and some may break down completely.
3. The new oil gives slightly more heat per gallon, once you get your burner adjusted to it, than the old, straw-colored fuel.
4. About nine out of ten burners can be adapted to burn the new oil satisfactorily at a cost ranging from about \$5 to \$50. There are certain "low-pressure atomizing burners" made by Hart and Oil-O-Matic which can use the new oil without any change at all. But certain other types, discussed below, will have to be switched to a lighter fuel (No. 1 fuel oil or kerosene), or, if they are to burn the less expensive No. 2 or

No. 3 oil, a different type burner will have to be installed at a cost of about \$175 to \$250.

5. The straw-colored heating oil will probably not return, even after the war, according to oil industry and government experts; the dark oil will become the standard house heating oil, since it is a by-product of a new "catalytic cracking process" used in the manufacture of aviation gasoline.

OIL BURNERS FOR DARK OILS

As mentioned above, some burners cannot be adjusted to the dark oils. This is the situation with regard to the various types of installation:

1. The new oil cannot be used, even with improvements or alterations in the burner, in the vaporizing pot type burners, some of which used to burn the straw-colored No. 2 oil, and some of which needed No. 1 or kerosene. Any owner of a pot type burner which used No. 2 fuel oil in the past should now switch to No. 1 oil, the higher-priced first cousin to kerosene. As a matter of fact, many of these vaporizing burners had chronic indigestion on a diet of No. 2 oil in the past, anyway, and it was a moot question whether it was wise to save money on the oil and put up with constant doctoring or spend the money on No. 1 oil and get nearly trouble-free operation.

2. The new oil cannot be used, even with improvements or alterations in the burner, in the wall flame rotary type burners (leading brands are *Timken*, *Toridheet* and *Fluid Heat*). Before the war, all except a few sick burners of this type used No. 2 oil. Now they will have to switch to No. 1, which costs more per gallon and gives slightly less heat per gallon to boot. (Note: Each heavier grade of oil gives about 2% to 5% more heat than the next lighter grade.)

3. Owners of the standard pressure atomizing gun type burners may be able to solve their difficulties in one of several ways:

If the burner is small, and has a low-capacity nozzle that will plug or give an inferior flame with the heavier oils, the simplest solution will be a switch to No. 1 oil.

If the burner is of normal size, it may need no change to adapt it to the new oil, except that it should be checked over by a serviceman to make sure it is burning properly.

Most pressure burners should,

however, have a few changes made to assure proper, trouble-free operation at maximum efficiency.

1. Check the atomizing pressure used on the nozzle. Usually adjustment for somewhat higher pressure is necessary to make the new, heavier oil burn as well as the straw-colored prewar heating oil.

2. Check the oil-burner nozzle. It's a good idea, in most cases, to have a new nozzle installed every three to five years in any event. And use of the heavier oil may call for the installation of a new nozzle especially suited to it.

3. Clean thoroughly every oil strainer in the burner, and plan to have the strainers cleaned more frequently than before, now that the new oil is being used. An additional strainer will probably be an excellent investment. It should be an easily-serviced type, so that it can be cleaned frequently and easily.

4. Have the firebox (combustion chamber) checked, to find out whether a new one would not give higher efficiency. For clean burning and for rapid heating from a cold start, it may be necessary to put in a new firebox designed to operate at a higher temperature. If your installation is five to eight years old, putting in a properly-engineered firebox may cut oil consumption 10% to 20%. Have a new firebox installed only by someone who makes regular use of testing instruments to check on the quality of combustion produced by the old and the new chambers, for this is a job requiring real engineering skill, not guesswork. (See the *Reports*, February, 1943, "Save Oil and Keep Warm," for a fuller discussion of this and other phases of oil saving.)

5. Clean the boiler or furnace flues, especially if the combustion is now less complete than it was with the lighter oil. If your burner had been adjusted to high efficiency before you switched to the new, heavier oil, and you have not had it readjusted for the new oil, chances are that you will have to clean the flues more often.

6. Have all small leaks in the burner repaired, and have all "air leaks" or "gas leaks" mended with furnace cement to prevent bad odors from escaping into the house.

7. It may be necessary to have the draft regulator adjusted to higher draft to prevent oil odors.

HEALTH AND MEDICINE

HAROLD AARON, M. D., SPECIAL MEDICAL ADVISER

MEDICAL CONSULTANTS: Dr. Anton J. Carlson—Chairman, Dep't of Physiology, University of Chicago; Past President, American Physiological Society; Dr. Theodor Rosebury—Assistant Professor of Bacteriology, College of Physicians & Surgeons, and School of Dental and Oral Surgery, Columbia University; Dr. Marion B. Sulzberger—Ass't Professor of Clinical Dermatology and Syphilology, New York Post-Graduate Medical School, Columbia University; Editor, *Journal of Investigative Dermatology*.

CU's Medical Consultants give technical advice on matters of medicine which lie within their fields. CU is responsible for all opinions concerning social, economic and public health questions.

Headache

CU's medical adviser discusses the known causes of this age-old affliction, and warns of dangers from "headache remedies."

Headache "remedies" cost American consumers over 72 million dollars in 1943—a rise of about ten million dollars over 1942. This lavish spending for headache remedies is a part of the general pattern of increased purchase of drugs for self-medication. The general trend is undoubtedly a reflection of the fact that medical care, never adequately distributed, is today even less available than in the past, and more and more people are relying on self-treatment with patent medicines. And the specific increase in headache remedy sales has doubtless stemmed also from the increase in headaches—a common symptom of nervous tension and strain.

Headaches are known to have afflicted man ever since he first began to record his troubles. However, because the contents of the skull were not readily accessible to observation, experimentation or surgery, knowledge of the mechanisms of headaches had to wait for the development of surgical techniques and methods of experimental physiology. These techniques and methods have given medical investigators considerable insight into the physiological conditions accompanying headaches, and their causes. Psychiatry, the youngest of the medical specialties, has also made notable contributions to our knowledge of the causes of headaches. As a result we have today a workable classification of the types and causes of headaches, though we still have a great deal to learn about them.

To start with, headaches are a com-

mon accompaniment to acute infections such as grippe, influenza, sore throat, etc. The intensity of the headache is not necessarily in proportion to the severity of the infection, though in infections associated with high fever the headache is generally more severe than in those with little or no fever.

In such cases, cure of the headache depends upon the cure of the underlying infection. Until the infection runs its natural course or is halted through the use of appropriate drugs only temporary relief may be expected. Aspirin is often useful to give temporary comfort; an ice bag or a cold compress is another old and useful measure.

"AUTO-INTOXICATION"

Headache is often associated with constipation, but the cause of the headache is not "auto-intoxication," as people frequently conclude from the fact that the headache is generally relieved by a bowel movement. It is now known that most of the headaches that come with constipation are due to mechanical distension of the rectum by retained stool, and that as soon as the distension is relieved (by an enema, for example), the symptoms disappear. Investigators have been able to induce a typical constipation headache simply by stuffing the rectum with cotton.

Headache is also frequent in conditions associated with high blood pressure, though its severity is not necessarily related to the level of the blood pressure.

"Migraine" headaches are readily distinguishable from the ordinary, oc-

casional kind. They tend to run in families, and they occur more frequently among women than among men. The typical migraine attack begins with a feeling of fatigue, accompanied by flashes or spots before the eyes. Then the headache begins, usually on one, though sometimes on both sides of the head or the face. It is accompanied by nausea, and, in severe cases, by vomiting.

Medical researches, conducted at the Cornell University Medical School, show that the migraine attacks are a result of temporary dilation and stretching of the blood vessels within the skull. Such dilation may result from any one of several causes. In some persons, the migraine may be traced to an allergy, such as sensitivity to certain foods. In others, emotional factors appear to play an important role.

Some women tend to have attacks of migraine within a period of about seven days prior to the menses; others are subject to migraine on the first day of the menstrual period. In both types, a change in the hormone balance of the body is believed responsible for the attacks. However, treatment with hormone preparations derived from ovaries or pituitary glands has so far been found to have little or no effect.

ALLERGIC MIGRAINE

Each case of migraine must be studied individually if its cause is to be determined. Allergic sensitivity to foods or other substances can often be discovered by means of a careful record of all food intake. Possible allergens should be looked for among foods eaten in the 24-hour periods before attacks. It may be necessary to experiment with "elimination diets," in which first one, then another possibly allergenic food is removed from the diet, and the effect on headaches noted.

Many migraine patients observe that attacks are precipitated by overwork, fatigue, or by emotional and mental tension. A frank discussion with a physician may yield clues to the mental origins of these attacks. Psychiatric treatment may, in these cases, yield valuable returns in health.

But in most cases of true migraine, no specific cause can be found for the headaches. Many patients have, however, found ways to shorten the duration of the attack, or to decrease its intensity. Aspirin or other coal-tar drugs, such as acet-

phenetidin, in doses of five or ten grains, sometimes stop an attack if taken at the appearance of the first symptoms. In other cases, a sedative (such as one of the barbiturates) or rest in bed for a few hours, is effective. In many more severe cases, only the drug ergotamine tartrate (*Gynergen*), taken either by mouth or by injection, will succeed in shortening or stopping an attack. The ergotamine compound is effective because it diminishes the amplitude of the pulsations of the blood vessels in the brain. But because of its profound effect on the blood vessels, ergotamine should never be taken except under the supervision of a physician.

In the past few years, observations have been made concerning a special type of migraine—one associated with congestion and throbbing of the face or head on the same side as the headache. This type of migraine has been attributed to the release in the body of excessive amounts of histamine, a substance which is normally present in the tissues in minute amounts. An occasional brilliant cure has been obtained by "desensitizing" the patient with repeated injections of prepared histamine solution in graduated doses.

So-called sinus headache demands special discussion because it is so common, and because so many misconceptions exist about it. Although headaches are associated with attacks of acute sinusitis, there is no proof that the pain is due to the inflammation within the sinuses. In fact, investigations by the Cornell Medical School group indicate that where headache accompanies sinus disease the pain is due to the inflammation and congestion of the mucous membrane of the nose, rather than to inflammation within the sinuses. If the upper part of the nose is inflamed, the headache appears at the front and the top of the head, and in and between the eyes. If the inflammation is concentrated in the middle and lower parts of the nose, the pain occurs over the cheek bones, at the temples, and even in the jaws.

The lining of the nasal cavity is made of spongy, erectile tissue, capable of rapid swelling and expansion during "colds" and allergic disorders. A similar swelling and congestion may occur during periods of emotional tension, exhaustion, anxiety, or sexual excitement. Such congestion ordinarily gives no obvious symptoms, but if a previously-existing

congestion resulting from acute inflammation is aggravated by emotional tension, headache and a feeling of extreme "stuffiness" may result. It has been shown experimentally¹ that, "If during the acute phase of [coryza or "common cold"] . . . when nasal membranes are engorged and sensitive, and watery secretion flows excessively, the patient remains relatively removed from routine decisions and frustrations of his working day, the nose becomes less painful and the secretions diminish." In other words, the time-honored measure of rest again proves a good remedy.

Drugs such as ephedrine and neosynephrin may shrink the mucous membrane and give temporary relief, but after their effectiveness has worn off, the swelling usually returns with increased force. Treatment with such drugs often does harm.

POSTURE HEADACHES

Recurring pain at the back of the head and the upper part of the neck may result from head injuries, or from sustained contraction of the neck and scalp muscles owing to emotional tension or improper posture. Dr. Henry Riley, a prominent neurologist, points out that "pain in the back of the head and neck extending up over the head as far forward as the eyes is a very common experience with individuals who have occupations which tend toward the holding of the head and neck in any habitual posture for any considerable length of time during the day," as do typists and musicians. Frequent change of posture will prevent such headaches. Relief from them is often obtainable by application of a hot-water bottle to the back of the neck, followed by massage.

Eye disorders, such as hyperopia, astigmatism and glaucoma, are commonly responsible for headaches. Headaches that become more and more severe over a period of time, with or without accompanying visual impairment, are sometimes symptomatic of disease of the brain itself.

It is clear, then, that headache is a symptom of many disorders, only a few of the more important of which have been discussed above. Examination by a competent physician, along with a careful history, are needed to determine the cause. In cases where the headaches have oc-

¹ "Experimental Studies in Headache," Drs. McAuliffe, Goodell and Wolff, Cornell University Medical School. From "Pain," Williams & Wilkins, 1943.

curred repeatedly over a period of many years, the ingenuity of the physician may be taxed to find the cause or a suitable remedy. Headaches of recent origin, with or without accompanying visual difficulties, require prompt medical care.

REMEDIES

Headache sufferers often resort to a variety of drugs in an attempt to obtain relief. But it is well to remember that some such drugs may cause serious harm or even death to sensitive persons.

No headache remedy—not even aspirin, the safest of the pain-killers—should be taken except under medical supervision by persons with a history of hay fever, asthma or other allergy. Most persons can take occasional moderate doses of aspirin safely, but some persons are sensitive to it, and they may develop such symptoms as nausea, swelling of the lips and face, or itching from even small doses.

Other drugs contained in patent medicines—in various combinations and in combination with aspirin—give rise to the danger of poisoning or addiction.

Acetanilid, a frequently-found patent medicine ingredient, may cause weakness, skin disorders and blood changes in very sensitive persons. Larger doses may lead to restlessness, delirium and collapse, or even to death from heart failure.

Antipyrine and acetphenetidin are similar in action to acetanilid, though they are less toxic and are less likely to cause habituation.

Aminopyrine and cinchophen are even more dangerous than acetanilid and antipyrine, and should never be used except under the supervision of a physician. In sensitive persons, aminopyrine may cause agranulocytosis, a progressive blood disease which has caused hundreds of deaths.

The bromide drugs, like acetanilid, tend to become habit forming, so that larger and larger doses are required with time. Eventually, serious poisoning results.

Aspirin is relatively safe for occasional use by most people, but large doses should be avoided. If you are accustomed to taking two tablets, try taking one instead; usually, it is just as effective. The nausea and stomach irritation which may result from the use of aspirin can be diminished or avoided if the doses are small, and if each dose is taken with a large pinch of bicarbonate of soda.

Nutrition Notes

BREAD

"Give us this day our daily bread" means different things to different people. To the modern flour and bread producer it means, more often than not, white bread, enriched with some B vitamins and sometimes containing added milk solids. And evidence is accumulating that the "staff of life" does not deserve its title in the form in which the majority of people consume it.

The "daily bread" of olden times was a whole-grain product; it could promote growth and health even when it was the main item in the diet. But modern milling processes have detracted from the nutritive value of bread. Table I shows why.

The white flour of today, even if it is enriched, cannot provide a bread that can truly be called a "staff of life." The refining process which is so destructive to nutritive value was put into general use in about 1880. And, according to at least one outstanding nutrition expert,¹ this refining might have had a disastrous effect on the health of our whole population had there not been a simultaneous general rise in the standard of living, so that the consumption of bread dropped sharply while there was a great increase in the consumption of the "protective foods," such as milk and milk products, eggs, fruits, vegetables, meat and fish.

Unfortunately, these protective foods are expensive, and surveys show that large sectors of the population are not able to obtain them in sufficient amounts. Furthermore, there has been a drop in the consumption of protective foods as a result of wartime restrictions. The result has been an increased consumption of bread and cereals.

But (see "Cereals," above) far too much of the cereal consumption of the American people comes from sources seriously inferior to unprocessed, natural grains. And, as Table I shows, enriching white flour with vitamins and iron fails to bring it up to the nutritive level of whole wheat.

The facts pointed out here have not been unrecognized. The British

government has, in fact, persuaded bakers to put out a loaf containing 85% of the wheat grain, discarding the bran. (Dr. Lepkovsky¹ considers even this loaf too conservative; he cites evidence to show that the bran in whole wheat bread is not indigestible, and that it improves the quality of the bread.)

According to Dr. Lepkovsky, American authorities and nutritionists have failed to profit from the experience of nutritionists in Britain and in other countries. He blames the Council on Food and Nutrition of the American Medical Association for its failure to face the facts in its insistence that enriched white flour is an adequate substitute for whole wheat. "Two years after the National Nutrition Conference, the Council on Foods still [1943] emphasized thiamine and to a lesser extent riboflavin, in discussing 'enriched' bread, no mention being made of accumulating literature on the inferiority of such enrichment compared to whole wheat bread. "In fact," says Dr. Lepkovsky, "Dr. Carlson² has been the only American scientist of note who has so far come out squarely for whole wheat flour as against 'enriched' flour."

"It is difficult to see how in the face of this impressive evidence of the nutritional superiority of whole wheat bread, backed as it is by so many feeding tests, the Committee

² Dr. Anton J. Carlson, Chairman of the Department of Physiology, University of Chicago; Medical Consultant to Consumers Union.

on Food and Nutrition of the American Medical Association could recommend 'enriched' white flour, at a time when 'protective foods' of animal origin are becoming scarcer and are bound to become increasingly so under our war economy. They have recommended that we throw away our 'staff of life' upon which we may have to lean very heavily and substitute in its place a crutch of known inferiority, of uncertain quality and untested value."

It is further emphasized that, as new factors of biological importance—particularly in the vitamin B complex—have been discovered, whole wheat grain was found to be a rich source of these factors, whereas they were often lacking in refined, enriched flour.

VITAMIN C

Despite much recent publicity advocating the use of vitamin C for a variety of ailments including hay fever, insomnia and lead poisoning, critical studies by careful investigators show that vitamin C has only two known uses: the prevention and the cure of scurvy. Other uses of the vitamin, in either synthetic or natural form, lack scientific justification.

A recent summary of the functions of vitamin C emphasizes that, "to date the chief role of ascorbic acid in human beings remains that of maintaining sufficient intercellular substance [in the tissues] and the lack of it results in the scorbutic process [scurvy]."

Furthermore, there is no reliable evidence that vitamin C will prevent or cure "rheumatism," rheumatic fever, tuberculosis or pyorrhea.

Table I: Composition of Flours

| Ingredient | White Flour | Enriched Flour | Whole Wheat Flour |
|---|-------------|----------------|-------------------|
| Thiamine (vit. B ₁), mg. per pound..... | 0.3 | 1.7 | 2.3 |
| Riboflavin, mg. per pound..... | 0.15 | 1.2 | 0.6 |
| Nicotinic Acid, mg. per pound..... | 3.5 | 6.0 | 26.0 |
| Pyridoxine, mg. per pound..... | 1.0 | 1.0 | 2.0 |
| Pantothenic Acid, mg. per pound..... | 2.5 | 2.5 | 5.0 |
| Carotene (vit. A), mg. per pound..... | nil | nil | 1.5 |
| Alpha-Tocopherol (vit. E), mg. per pound... | nil | nil | 1.4 |
| Fat, percent | 1.2 | 1.2 | 2.4 |
| Protein, percent | 11.0 | 11.0 | 12.7 |
| Calcium, percent | 0.02 | 0.02 | 0.05 |
| Phosphorus, percent | 0.09 | 0.09 | 0.42 |
| Iron, mg. per pound..... | 3.0 | 6.0 | 20.0 |

¹ Lepkovsky, "The Bread Problem in War and in Peace." *Physiological Reviews*, April, 1944.

NEWS AND INFORMATION

The "GI Gyp"

Hazards appear in the new Veterans' Administration regulations on home loans for war veterans

In the October 1944 Reports, CU discussed the housing provisions in the "Servicemen's Readjustment Act"—the GI Bill of Rights. At that time it was pointed out that the Act, which promised a great boom in building affecting all consumers, could not be made operable until certain legal knots were untangled, and until regulations were drawn up to clarify the methods of administration. The following article, by S. Brothers, an authority on housing, analyzes the recently issued regulations and describes their probable effects.

The long-awaited regulations on home loans for war veterans, as released by the Veterans' Administration (VA), clearly reflect the sinister influence of the building and loan associations' lobby. The right of veterans to real, protective standards has been set aside in favor of higher profits and greater power for real estate speculators. The new regulations are, in fact, so lax that the National Housing Agency (NHA) has refused to collaborate with the VA in processing the loans which are termed—off the record—the "GI Gyp."

REGULATION'S DEFECTS

There are three major defects in the regulations as they stand:

In the first place, the returning GI is placed in a position where he is easy bait for the jerry-builders. It is true that he is loaned money for a home, but he is not given the safeguard of adequate standards to protect him from unscrupulous builders who use inferior materials and poor construction. The veteran will be in the particularly vulnerable position of wanting to buy a house at a time when the demand will be far greater than the supply. And the volume of new housing will be so great that even if only a small percentage of the deals are not on the level, the amounts involved will be tremendous.

The NHA estimates that for the first ten years after the war there will be a need for about 1,250,000 housing units each year, and that these will cost over a billion dollars. Over the ten years, the demand by veterans is expected to total 4,000,000 units. And, since civilians and veterans will be competing for the same houses, it is obvious that the kind of deal the veterans get will affect the entire market. Consequently, since there will be no adequate national protection for veterans, there will be none for most other house buyers unless they buy under FHA's insured mortgage plan. And it is entirely conceivable that many builders will refuse to sell under the FHA plan because they would then be forced to comply with FHA's standards.

BAD RISKS CARRIED

A second major weakness of the regulations is that they make possible the granting of loans to veterans who are bad risks, since no national standards for credit inspection are included. Thus, although the government insures up to \$2000 on home loans, the government makes no attempt to find out whether the veteran's credit standing is satisfactory. In practice, then, the veteran will go to a bank, building and loan association, individual or other type of lender and apply for a loan. Theoretically, the lender investigates the veteran's credit standing, and grants the loan only if he believes the veteran to be a good risk. But, since the loan is guaranteed by the government, the lender's risk is small, and it seems highly probable that in many cases the lenders will be lax in their credit investigations. In fact, there is even room for collusion between lenders and borrowers. Since the taxpayer is, in the end, the person who guarantees the loan, this should be a matter of interest to all.

A third serious flaw—one that is be-

ing protested vigorously by veterans' organizations, labor organizations and other interested persons—is that the regulations permit the VA to stop disability payments to veterans who cannot keep up the payments on their houses. This means, of course, that, in the event of a setback, not only does the veteran lose his home, but at the same crucial time he can lose the regular disability payment to which he is entitled. Congressman Wright Patman has already introduced an amendment which provides that a veteran's compensation payments may not be attached in connection with government foreclosure on a property purchase under the 'GI Bill of Rights.'

TRADE IS APPREHENSIVE

Some of the hazards in the regulation are recognized by the housing trade associations as well as by veteran and other groups. The National Association of Home Builders, in its October 23 newsletter says, "There is some apprehension on the part of some financial groups that the program has not been nailed down tight enough in respect to appraisal procedure. Concern along this line has even been expressed within government circles. It is pointed out that the appraisers will not have any direct contact with the VA, since they will be employed by the borrower or lender and will look to them for their fees."

Critics of the regulations say that the government can remedy the situation by requiring that all homes purchased under the GI Bill come up to national standards of quality in materials and construction. This could be done very simply by channeling loans through FHA (a subsidiary of NHA), which has already set up the necessary specifications, and has used them for many years. A critical reading of the Congressional hearings on the Act shows that Congress undoubtedly intended that this be done when it wrote the Act.

As a matter of fact, immediately after the Act was passed in June of last year, the VA held a series of meetings with NHA, and requested NHA to draw up the necessary regulations. As recommended by NHA, these regulations provided for standards of construction as well as for a program for investigating the credit rating of the prospective buyer. But under the pressure of a powerful lobby representing the building and loan associations, the VA threw NHA's proposals overboard.

As this is written, the VA and NHA have reached an impasse, with the VA refusing to consider national standards, and NHA refusing to have anything to do with processing the loans unless some sort of standards are included. Thus, unless a compromise is reached, the field offices of NHA, which have been operating for years and have an organized setup all over the United States, will not be used, and the VA will have to set up its own field offices to handle veterans' housing. In line with this, the VA has already opened up four offices, and is planning over a

hundred more. This duplication of offices is, of course, paid for by the taxpayers. NHA can hardly be blamed for its hands-off policy; it does not want to be caught holding the bag when, as unquestionably will happen, some of the houses will be foreclosed.

Interested groups are asking for Congressional action to break the deadlock. They are calling on consumers—particularly relatives of servicemen—to write their Congressmen, telling them they want the protection of national standards for GI housing.

licts between the research divisions of many corporations and their marketing staffs. When the engineer would wish to design a serviceable article with a long life and present its merits fairly, the eye of the sales staff was often focused upon unessential differentiation, upon "repeat sales," and upon profitable pricing.

If, however, all has not been serene within the confines of the corporation in the matter of product development, the relations of business with consumers have in this regard been doubly unfortunate. In recent years, a vigorous consumer movement has been born, designed to combat the slippery superlatives, the pseudo-science, the half-truths, and the irrelevant appeals of modern advertising. Consumers have welcomed the genuine innovations of industrial research. They have accepted our technological culture; yet increasingly they are becoming skeptical as to the genuineness of much product development, and doubly skeptical as to whether scientific research is really penetrating to the ultimate consumer as fast as it might.

II

Development of methods of test, comparative testing of products and education of consumers to demand high quality provide the greatest incentive to product improvement. When the consumer has no basis for comparisons, sales are generally increased by improving advertising claims or increasing advertising budgets, not by improving product. In many lines, it is not the best product, but the best advertised product that sells most. Anything that focuses attention on quality and aids in comparison of quality leads to genuine product improvement. Think what competition there would be to improve quality if every family in the United States belonged to Consumers Union, or if the Bureau of Standards made quality ratings of brands available to all.

Hence the importance of consumer testing and consumer education with respect to product improvement and development.

Consumer testing has never been and never will be the monopoly of a single organization, such as Consumers Union. It emerges wherever a buyer or organization of buyers seeks to assess the relative merits of goods

THE CONSUMER MOVEMENT

... its role in product development

by Colston E. Warne, President of Consumers Union

In this address, given at a meeting of the National Industrial Conference Board, Dr. Warne tells how consumer testing combats exaggerations in advertising, and results in the improvement of products.

I

Not long ago, the consumer was expected to be the appreciative but passive recipient of the fruits of industrial research. Before him was to be spread a myriad of tempting products, each presented with an imperative appeal. Upon him were to be lavished the latest in chrome and grill-work, the latest in oil burners, the latest in cold tablets. A new scientific world, wrapped in cellophane, was seemingly taking tangible form. The consumer's role was but to buy—to share the vicarious thrills of the movies, the ecstasy of fast driving, the comforts of home refrigeration or the romance of modern perfumes.

With the war, some of this consumer dream world has disappeared in consumer goods' scarcities. Science has been harnessed to uses of greater immediacy. But, through the institutional advertising of our times, we are even now afforded an occasional glimpse of a postwar consumer dream world, which surpasses even the most vivid 1939 imagination. Grandfather, in luxurious comfort, is piloting his fool-proof plane over

familiar landmarks. Mother is operating in a kitchen which bears little relationship to the kitchens of past and present. Weird and wonderful cars emerge on the superhighways. A world of harnessed power and of plastics is promised. The familiar gives way to the unfamiliar as we leaf our current periodicals.

Unfortunately, in the past as in the present, advertising exuberance has tended to outstrip laboratory performance. Imaginative advertisers have too often made claims which were to plague those with a scientific frame of mind. If every product in a field were to be "best," where were the "good" products, not to mention the "poor" products, the "inferior" products, and "worst" products. Bewilderedly, the consumer was left to plot a purchasing course amid a flood of superlatives, often in fields in which the complexity of the article rendered his choice blindfold.

The consumer was, however, not the only one plagued by over-enthusiastic advertising outbursts. This failure of advertising to reflect accurately the merit of products led also to con-

by the use of approved testing techniques. The home economists have developed extensive programs of comparative testing especially in foods and textiles, although they have been frequently inhibited from mentioning brand names. Cities and governments frequently employ comparative testing in connection with their purchases. Such institutions as hospitals make extensive use of tests. The purchasing departments of corporations likewise use comparative testing techniques.

The unique feature of an organization such as Consumers Union is that it seeks to make public information on brands, much of which is already available to large purchasers in a field, and that it seeks to adapt its findings to the needs of the smaller buyer. No person in technical circles that I know has even been disposed to quarrel with the principle involved.

In a word, the consumer testing movement has sought to make nonsense a less telling appeal. It is no mere accident that our most bitter and most vociferous enemies include those in the proprietary drug and cosmetic field who have specialized in allure and fancy packaging. If we can spread to the consumption field the fundamentals of the scientific method, we have made a significant contribution.

When fifty best brands of a product are offered, what can the consumer do? Buy them all? Can they all be the best brand? Are there grounds for analysis? Can not the physical and chemical properties of the article be discovered? May not tests be conducted which will indicate the comparative effectiveness for a given use? If such tests are valid, in the case of a uniform product, others can conduct the tests and achieve a similar result.

FACTS ARE NEEDED

Science is the ally of the consumer movement—a powerful ally. It is tentative. It is slow. It is modest. It has but a single quest—truth. It is suspicious of special pleading, even when called advertising. Comparative testing is an art which is being widely used in schools and colleges; it lies at the root of the consumer education movement. Students want facts about the bewildering array of products, of claims and counterclaims. To get these facts, appraisals have to be made. Where standards and specifi-

cations exist, they make the job easier.

Consumer testing emerged when it was appreciated that there were no insuperable obstacles in the application to consumer goods of testing techniques which had long been familiar in the field of government, and, to an extent, in corporate purchasing. Government purchasing agents are not disposed to shape their selection of commodities by the pulchritude of a posed model. Nor would corporation officials be always highly impressed with the merit of a brand of steel rail by observing an advertisement showing a blonde seated upon it. The National Bureau of Standards, the A.S.A. and other technical agencies have brought forth an elaboration of testing methods, standards, and specifications, many of which have been adapted to supply the consumer with knowledge upon which to base his purchasing.

HOW CU TESTS

The testing procedures employed by a consumer testing organization need brief note. Consumers Union, for example, buys leading brands of canned goods through retail channels and, after stripping the labels and numbering the samples, has the tests conducted by official graders in the United States Department of Agriculture. The multiplicity of trademarks lessens the value of this procedure to the consumer, but samples of leading brands are included. Such tests have to be repeated periodically. Although many chemical and physical tests are undertaken in Consumers Union's own laboratory, a portion of the work is carried on through the cooperation of scientists in colleges and universities. Without such assistance it would be impossible to maintain the present coverage.

We make no claim to the powers of an oracle, and we are highly conscious of our own limitations. Let me quote from the Consumers Union *Buying Guide*:

"The ratings of products represent the best judgment of the technicians on the staff of Consumers Union or of consultants whose technical competence and freedom from commercial bias make their opinions of value to consumers. Ratings are based on laboratory tests, on carefully controlled tests under conditions of use, on the experience of a large number of persons with the products being studied, or on a combination of these factors.

"It should be understood, however,

that the ratings, even when based on laboratory tests, represent in large measure *opinions* and not simply a compilation of scientific data. While it is possible, for example, to state with a fairly high degree of certainty that one bottle of milk contains more butterfat than another bottle, with most products judgments are not so simple. Thus stockings may be carefully tested in the laboratory, but experts are far from being in agreement as to the value of such tests in determining how well a pair of stockings will wear.

"There is, too, the possibility of errors of technical finding and of fact. Such errors are made even in the most painstaking scientific work, and are unavoidable in the regular technical work of Consumers Union which involves the handling of great masses of material in diverse fields. The technical staff gives its assurance to members of Consumers Union, however, that it will exercise the greatest care in testing and judging products, in checking data, and in preparing ratings. Where errors are found, corrections will be promptly made.

"Doubts may arise as to the value of advice which can be given only with such qualifications. Yet it is a far better guide to intelligent purchasing than any ordinarily available to the consumer; it gives him far greater chance of getting good value for his money; it substitutes the best technical knowledge that can be made available for haphazard guessing; and it does give the consumer the satisfaction of having his buying choices determined by technical tests rather than by the cleverness of an advertising copy-writer or the ingenuity of a manufacturer in making a shoddy product look like a good one."

III

As a representative of the largest consumer-owned and controlled testing organization, one which has been operating since 1936, let me state with some candor our attitude toward the problem faced by this round table. Our organization feels that consumer attitudes should share in an important way in the shaping of postwar production. We therefore welcome this opportunity to state our outlook to this representative body.

Our indictment of prewar product development covers five points:

1. We feel (what you as technicians doubtless realize) that *valid scientific discoveries have been exploited to consumer disadvantage* and that the onward march of science has brought an extraordinary degree of consumer bewilderment instead of consumer education. Let me illustrate: Scientific knowledge of vita-

mins and their effects is being rapidly extended. Upon this knowledge is built a vast industry, little of which is dedicated to meeting the real needs of consumers. The best medical advice we have is that most consumers could, through the wise choice of ordinary foods, secure the proper quantitative vitamin requirements with possible exception of vitamin D in northern climates. They do not need capsules. In their proper place and under medical supervision, vitamin capsules are useful, yet today millions of dollars flow from necessary consumer fields into this form of expensive medication. The first task of consumer testing has then been that of puncturing the bubbles of those business groups who seek to distort a valid discovery in order to create sales.

2. We feel that *much research has, in the past, taken the form of unnecessary product differentiation*, rather than product improvement, and that many segments of industry have conscientiously resisted movements looking toward uniform standards of measurements and performance. There have, of course, been notable and commendable exceptions. One need, however, only mention the prewar motor car as a case in point. Underlying much of the excellent research that went into it lay the idea of altering the superficial design so as to render the previous model as obsolete as possible. The consumer cost of such changes ran high. The benefits were frequently negligible. We, as a consumer testing organization, seek to differentiate artificial sales gadgets from performance.

SOME PRODUCTS NOT NEEDED

3. We feel that *not a few products on the market today have no valid reason for being produced*. They class with the claims of the snake oil men of yesterday. In this grouping, I would include those who promise beauty through skin treatment, those who in their imagination have isolated the dandruff germ and those who in the advertising copy create tooth luster or, more important as a fraud, that highly-profitable business of curing colds. Despite the best efforts of the Federal Trade Commission, the Food and Drug Administration and Better Business Bureaus, straight quackery still forms an important segment of American business. Consumer testing has, in common with other agencies, the task of exposing it in telling buyers what

science has not yet discovered.

4. We feel that *technical advances have not infrequently been consciously withheld in order to maintain the profitability of business*. New and useful inventions by no means proceed on an even course from the laboratory to the home. In between stand vested rights of existing producers, problems of patients and monopoly. I should not like to consume my time repeating monotonously the charges of Thurman Arnold and Wendall Berge, many of which are well documented and all of which will in due time be tried in the courts. A scan at the TNEC reports will be convincing to many.

One illustration comes immediately to mind:

FACTS vs. PROPAGANDA

A few nights ago listening to a delightful radio program I heard the announcer say: "The constant aim of our research is to make X Company's lamps stay brighter longer." I happened to be reading, at the time, an article by Thurman Arnold which quotes a letter from an engineer of the same Company. The letter read:

"Two or three years ago we proposed a reduction in the life of flashlight lamps from the old basis on which one lamp was supposed to outlast three batteries, to a point where the life of the lamp and the life of the battery under service conditions would be approximately equal. Some time ago, the battery manufacturers went part way with us on this and accepted lamps of two-battery lives instead of three. This has worked out very satisfactorily."

Or consider this letter written by an official of the same company to an executive of another concern:

"The design life of the 2330 Lamp has been changed from 300 back to 200 hours, the change to take effect as soon as manufacturing facilities will permit. It is understood that no publicity or other announcement will be made of the change."

Mr. Arnold continues the indictment by stating that the same company sought to temper the introduction of fluorescent lighting. It was to "minimize, for the present, the application of daylight fluorescent lamps for other than special applications which would mean plus installations and plus business for ourselves, as well as the utility companies."

5. We feel that *articles of acknowledged merit have, through widespread advertising, secured an*

exaggerated place in our economy.

The good life in our society consists increasingly of using approved categories of goods, of a life of motion and of ostentation. We must ride in an approved—meaning a highly-advertised—car, smoke an approved cigarette, drink an approved whiskey. We deem our standard of living high because the volume of goods we annually produce is high; seldom do we consider whether the balance in use values approximates in marked degree the volume.

We as a consumer testing organization ask: Is the good life to flow from an amassing of cheap goods, from the placing of accent upon motion, upon allure, upon change? Granting that there is a basic value in human comfort brought forth by mechanical invention, can we be satisfied with the culture pattern which has been created? Or may not our consumer groups suggest that a proper balance be struck between products—that home furnishings rank with motor cars; that books rank with highly-promoted movies. The consumer is not a mere creature for sales exploitation. Perhaps there is a germ of truth in Veblen's frequently quoted statement that invention is too often the mother of necessity, rather than the reverse.

AID TO BUSINESS, TOO

Is it not apparent that consumer testing, if it is operated with integrity and freedom from preconceptions or bias, may in the postwar world be of substantial assistance not only to consumers but also to those in business. It is imperfect; yet in the absence of adequate standards and grades it does assist those whose products are superior to secure deserved recognition. (If governmental agencies were to supply the consumer with adequate information, one reason for CU's existence would disappear.)

For a time it was popular among businessmen to look askance upon consumer testing; to indict it upon the following grounds: (1) that it might be prejudiced; (2) that it might be incompetent; (3) that it might be radical. Many of the very organizations raising these questions could determine that their own purchasing departments were using consumer testing to great advantage. Yet the questions were natural. Any new movement, born of revolt—in this case a revolt against exaggerated advertising—encounters skeptics.

Our answer to the question of our impartiality lies in our tests. If they are not accurate (and we try to employ the best testing techniques) let others test samples and see wherein there is disagreement. Meanwhile, we scrupulously avoid any personal or financial entanglements with particular manufacturing companies. All our income comes from our membership who elect the directorate.

The charge of incompetence we meet in two ways: We try to state carefully the basis upon which our testing was conducted; the extent of our sampling. We seek to use approved testing methods and, where possible, governmental or university laboratories. We realize that our work is necessarily circumscribed due to our limited income. Yet, with the wealth of technical literature in most fields, we can assemble on a given subject a body of material which, despite its limitations, will go far beyond the equipment of the layman who, with his five senses, has scant protection amidst the technical complexities of our time.

On the third argument that we are radical, we ask for the examination of our materials to see if in eight years of publication any item has appeared which departs from our specific task of consumer enlightenment. We have a political program, yes. What organization of today does not? But it consists of such things as a demand for a stronger Federal Trade Commission; the extension of the work of the Bureau of Standards so that test results are made public and certified; the wider use of governmental grade labelling; the repeal of so-called price maintenance laws which allow monopolistic practices to grow; and, for the duration of the war emergency, the development of effective price control.

A Twentieth Century Fund Committee, chaired by Willard L. Thorp of Dun and Bradstreet reported in 1939: "We recommend the wide extension for public use of the facilities of government and private agencies for testing and appraising consumer goods.

"We urge that the kind of services so effectively performed for government buying by the United States Bureau of Standards be made widely available to consumers in the United States. This kind of testing service can and should be supplied by both government and private organizations.

"We believe that the Bureau of Standards should make tests of leading products for specific qualities and that the results should be made public. At the present time the Bureau of Standards does test certain types of consumer goods but the results of these tests do not become widely available to consumers.

"We also recommend the extension and more effective use of voluntary, private, non-profit testing and reporting agencies. The record of such agencies is not perfect and there is serious question as to whether their present limited facilities permit them to do an adequate scientific job of appraising and rating consumers' goods. This is particularly true of complex fabricated products like automobiles and radios, or articles in which style and taste are more important than physical qualities. But the principle behind these efforts is sound and should be encouraged. With sufficiently wide support from consumers these agencies would be able to get enough revenue to permit them to function more effectively."

We in CU feel that the social aim of all justifiable economic activity must be the consumer welfare. We wish, in a modest way, to advance that end. Those concerns which produce products which are technically good and are not unreasonably priced will find that we approve their product. Those relying upon sales pressure and advertising instead of technical improvement will find us highly critical. We shall continue to take pains to be fair in our appraisals. We cannot ask the cooperation of business as we wish to maintain the strictest impartiality. We can ask and do ask for an understanding of consumer testing as a force of increasing significance in the postwar world.

IV

We feel that it was no accident that the consumer testing movement grew up in America. Indeed it is a tribute to the technological advances that the nation has made that the movement was born. Indeed with other groups, we are urging that there be more technical standards.

The American Home Economic Association has put the consumer position very well:

"Our economy of free enterprise is based on the assumption that the consumer will be able to judge quality and price and that he will be able to detect and shun fraudulent products. We be-

lieve that the best way to enable the consumer to exercise his alternative proper role is through the development and general use of standards for staple goods offered for sale on the retail market.

"Such standards may be in the form of specifications for one or several grades; they may be definitions of words to be used for certain products, such as the rayon and fur-trade rules; they may be sizing of garments on the basis of body measurements. Since standards are sought for products, not people, matters of individual taste, such as fashions, are outside their scope.

"One of the major factors in intelligent income-use is ability to identify the relation between price and value of goods and services so the individual may select those best adapted to his needs at a price he can afford to pay.

"Everyone recognizes that price would mean nothing without knowledge of how much was being offered at a given price. Those interested in income-use believe that price is equally meaningless without knowledge of what is being offered at a given price. Buyers are helpless in trying to compare the real value to them of two pairs of silk hosiery, two suits of clothes, or two mechanical refrigerators at different prices when there is no way for them to make accurate comparisons between their quality and performance in use.

"These definitions, or standards, are in the Kitty Hawk stage of development. Technicians working for the government, industries, and a few retailers have proved that the quality and performance of goods and services can be defined."

Looking ahead at the technical advances in the postwar world, a consumer testing organization raises these pertinent questions: Will busi-

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Work on the following reports, among others, is either now under way or scheduled to begin soon:

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ness, in the years to come, continue to promote useless articles? Will business claim too much for useful articles? Will business unduly elaborate otherwise serviceable goods? Will business in the future stifle technical advance?

The answers to these questions depend upon you, not on us—I confess I don't pretend to have the answers. I do know that the most powerful group of revolutionaries in America are the advertisers. They have painted in three colors a world of plenty and have held out promises of affluence

which, if half-fulfilled, would double the standard of living of the nation. The war, while it has brought sacrifices to some, has given many consumers a brief and limited taste of comfortable living. It has likewise immeasurably enlarged our capacity to produce.

Fifty years ago, it was popular to quote the biblical injunction that the poor would always be with us. Today that is not possible. The central issue of today is whether our economic system can so adjust itself as to fulfill its promise of plenty for all.

ing complexity of society on the one hand, and the rapid advance of medicine as a science on the other. The practice of medicine, which is the link between the two, and which should bring the achievements of medical science to all the people, has failed to keep pace either with changes in the social order or with advances in medical science. As Dr. Stern points out, medicine in the U. S. is faced with a dilemma:

"It is scientifically equipped to a measure not previously envisaged and, at the same time, it is blocked in the full utilization of its newly discovered powers by economic and social conditions beyond the scope of medicine but not outside the interest of the physician. The problem of increasing the effectiveness of the medical profession has thus become not merely one of improving its scientific and technical competence. It has become one of reorganization of medical services and medical payment so that they can better meet the requirements of the new medicine of society. The need for such reorganization of medical services has been emphasized by our analysis of the relation of income to health. It is clear from this evidence that the very group which stands most in need of medical services is the least provided for under the individual fee-for-service system. Problems of medical costs have been accentuated since the hospital, by its increasing effectiveness, has become a crucial center of medical care, medical research and medical education."

Consumers can profitably read Dr. Stern's book and then pass it on to their doctors. For both it will provide a liberal education in medical and social realities.

Society and Medical Progress

Although the Wagner-Murray-Dingell Bill failed to obtain a hearing in the last Congress, the controversy over the bill has been useful in focusing the attention of doctors and consumers on problems of medical care. That there are serious, unmet medical needs in the U. S. has been known for more than 20 years. The National Health Survey of 1938, the campaign for national prepayment health insurance initiated by the Wagner-Murray-Dingell Bill and the more recent Pepper Committee Hearings have highlighted these needs for the majority of the people and for many doctors.

It is unfortunate that the medical profession has practiced in isolation from the rest of the community. Doctors tend to think of themselves as a

unique and self-sufficient group. They consider that they are the final judges as to what constitutes good medical care and what, if any, reforms should be applied to meet medical needs. As a result, they have succeeded in alienating themselves, as an organized profession, from the majority of the people. Worse still, their ignorance of and naiveté in social and economic matters has made them the easy prey of undemocratic organizations and special-interest groups.

SOCIAL TRENDS

The idea that modern medical care involves much more than a personal relationship between doctor and patient has long been recognized. The increasing use of social agencies, hospitals, public health clinics and the techniques of other services in modern medical practice has made medicine a social as well as a biological science. The present importance of the relationship between medicine and society in general makes it worthwhile to go back to a book which appeared in 1941—"Society and Medical Progress"¹ by Dr. Bernhard J. Stern, Lecturer in Sociology at Columbia University and Visiting Professor of Sociology at Yale University. In this book, Dr. Stern writes of medicine in its relations to social and economic conditions, and to other sciences.

Though published in 1941, "Society and Medical Progress" is up to the minute in its comments on medical problems. Dr. Stern shows how these problems arose out of the grow-

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